ACIDIC PRECIPITATION IN ONTARIO STUDY

ANNUAL STATISTICS OF CONCENTRATION AND DEPOSITION

DAILY PRECIPITATION AND AIR MONITORING NETWORK 1988

MAY 1990

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1988

Report prepared for:
Air Resources Branch
Ontario Ministry of the Environment

Report prepared by:
A.P.I.O.S. Coordination Office
Ontario Ministry of the Environment

MAY 1990

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This report was prepared by Diane Green and Joe Lam of the APIOS Atmospheric Deposition and Chemistry Program. However, the data themselves are a product of the combined efforts of many individuals. Collection of air filter samples was coordinated by Bill Trayling (in Northeastern Region), Steve Elliott (in Southeastern Region), Scott Kennedy (in Southwestern Region), Wim Smits (in Northwestern Region) and J.P. Varto (in Central Region). Sample handling was carried out by Sue Lampinen and Celine Audette. Chemical analyses were performed at the Laboratory Services and Applied Research Branch under the coordination of Frank Tomassini. Data entry was performed by Diana Rhodes and co-ordination of data entry and records management by Peter Maheras. Joe Lam provided invaluable assistance with systems development. Data validation and overall systems management was performed by Diane Green. All enquiries regarding the reported data should be directed to Neville Reid, Co-Ordinator, Atmospheric Deposition and Chemistry Program (416) 326-1691.

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Egbert	20	5
Fernberg	16	6
Gowganda	18	7
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Longwoods	02	9
Melbourne	01	10
Nithgrove	07	11
North Easthope	03	12
Penn. State	n/a	13
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PART I

INTRODUCTION

INTRODUCTION

This report was prepared by Diane Green. The statistical summaries presented in this report pertain to the 1988 analytical results obtained from the Acidic Precipitation in Ontario Study (APIOS) daily precipitation and air monitoring network. The relevant data can be obtained on request from the Air Resources Branch of the Ministry. All available data are utilized in the calculations except results reported as being unreliable (i.e. results are identified as unreasonable values by using the validation procedures; detailed description of the validation procedures is available from the Ministry upon request) or approximate (i.e., inexact results are reported due to laboratory difficulties, such as may be encountered in calibration, or when the sample cannot be re-analyzed to confirm the reported values). In a very few cases, concentration levels exceeded the upper limit of the range of the chemical analysis. Rather than using the upper limit, a decision was made to exclude these values from the statistics generated in this report. If a reported value is labelled as <W, it is replaced by a "zero". W is the level which the analytical technique cannot distinguish from zero. Prior to 1986, if a level was recorded less than the detection limit, T, a value corresponding to one half the detection limit is utilized for statistical calculations as reported in the statistical summaries. These values are not longer halved. Note that T is normally about ten times W, and values above the T criterion are considered to be precise and accurate. W corresponds to approximately one standard deviation of low level duplicates of real samples.

The reported precipitation gauge depth (standard range gauge or nipher shielded snow gauge) is utilized in the calculation of deposition. If a rain gauge value is not available then the collected sample value is converted to its equivalent precipitation depth and is used in the deposition calculation.

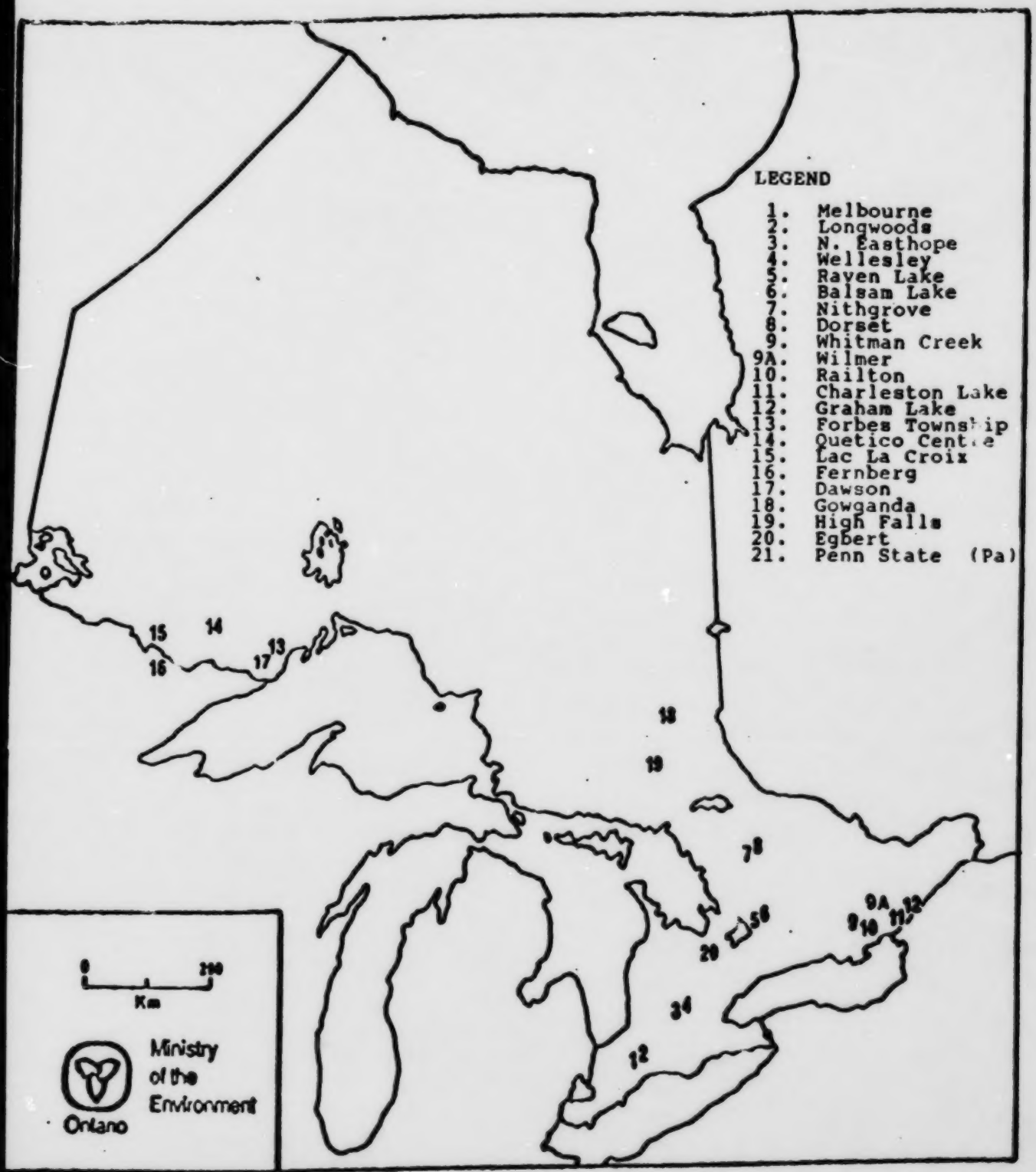
In the air concentration statistical summaries, "Nitric" represents "Nitric Acid"and "Totl NO_3" represents total nitrates calculated by the summation of particulate "Nitrate" and "Nitric Acid". The air filter measurement for sulphur dioxide includes a contribution from nylon-filter impregnated SO_4. In these reports the sulphur on nylon filters is interpreted as sulphur dioxide. However, it is possible that organic sulphur compounds also contribute to this loading.

Methods do not currently exist to quantify this contribution in routine network operation.

The statistical summaries presented in Parts III to VII include the number of samples, mean (arithmetic/geometric), standard deviation (arithmetic/geometric), maximum, minimum and quartiles and volume weighted means using precipitation gauge depths where appropriate.

PART II

STATION DESCRIPTION AND LOCATION MAP


LEGEND
1. Melbourne
2. Longwoods
3. N. Easthope
4. Wellesley
5. Raven Lake
6. Balsam Lake
7. Nithgrove
8. Dorset
9. Whitman Creek
9A. Wilmer
10. Railton
11. Charleston Lake
12. Graham Lake
13. Forbes Township
14. Quetico Centre
15. Lac La Croix
16. Fernberg
17. Dawson
18. Gowganda
19. High Falls
20. Egbert
21. Penn State (Pa)
0
100
Km
Ministry of the Environment
Ontario

APIOS DAILY SEQUENTIAL SAMPLERS
CONVERSION TO ERT FILTERS

1 9 8 8

DORSET 1	**2-stage 47mm** June22-July18	**3-stage 47mm** July19-Aug17	**3-stage 50mm** Aug18-onwards
DORSET 2	**2-stage 47mm** June22-July18	**2-stage 47mm/6hr** July19-Aug14	**2-stage 50mm/6hr** Aug15-Sept1
	2-stage 50mm Sept2-Oct19	**3-stage 50mm** Oct20-onwards	
EGBERT	**3-stage 50mm** from inception		
BALSAM LAKE	**2-stage 47mm** prior to Jun10	**3-stage 47mm** Jun10-Aug18	**3-stage 50mm** Aug19-onwards
PENN STATE 1 AND 2	**2-stage 47mm** May11-July1	**3-stage 47mm** July2-Aug31	**3-stage 50mm** Sept1-onwards
CHARLESTON LAKE	**2-stage 47mm** undetermined	**3-stage 47mm** undetermined	**3-stage 50mm** Dec13-onwards
FERNBERG	**2-stage 47mm** undetermined	**3-stage 47mm** undetermined	**3-stage 50mm** Oct-onwards
GOWGANDA	**2-stage 47mm** till JUL5	**3-stage 47mm** JUL6-AUG23	**3-stage 50mm** AUG24-onwards
HIGH FALLS	**2-stage 47mm** till JUL5	**3-stage 47mm** JUL6-AUG30	**3-stage 50mm** AUG31-onwards
LONGWOODS	**2-stage 47mm** till AUG22		**3-stage 50mm** 23Aug-onwards
WELLESLEY	**2-stage 47mm** till AUG22		**3-stage 50mm** 23 Aug-onwards

ONTARIO MINISTRY OF THE ENVIRONMENT
APIOS-ACIDIC PRECIPITATION IN ONTARIO STUDY
DAILY PRECIPITATION SITES

STATION ID	MOE REGION	STATION NAME	ELEV (M)	LATITUDE (NORTH)	LONGITUDE (WEST)	UTM GRID CO-ORDINATES (NORTHING)	(EASTING)
000002-02-01-1011	SOUTHWESTERN	LONGWOODS	239	42°53'03"	81°28'50"	4747849	460756
000002-02-01-1021	SOUTHWESTERN	MELBOURNE	213	42°47'12"	81°33'27"	4737061	454401
000002-02-01-1031	SOUTHWESTERN	NORTH EASTHOPE	375	43°24'22"	80°53'45"	4805705	508434
000002-02-01-2011	SOUTHWESTERN	WELLESLEY	344	43°28'05"	80°45'33"	4812606	519481
000002-02-01-2031	SOUTHWESTERN	EGBERT	253	44°13'57"	79°46'53"	4898202	597322
000002-02-01-3011	CENTRAL	DORSET	320	45°13'25"	78°55'51"	5009657	662451
000002-02-01-3021	CENTRAL	NITHGROVE	325	45°12'03"	78°04'12"	5009221	730127
000002-02-01-3031	CENTRAL	BALSAM LAKE	259	44°37'45"	78°51'22"	4943776	670063
000002-02-01-3041	CENTRAL	RAVEN LAKE	274	44°36'40"	78°54'43"	4941655	665686
000002-02-01-4011	SOUTHEASTERN	CHARLESTON LAKE	92	44°29'50"	76°02'40"	4927414	416963
000002-02-01-4021	SOUTHEASTERN	RAILTON	152	44°22'34"	74°34'45"	4913518	533527
000002-02-01-4031	SOUTHEASTERN	GRAHAM LAKE	130	44°34'50"	76°51'45"	4940930	749090
000002-02-01-4081	SOUTHEASTERN	GOLDEN LAKE	160	45°36'48"	77°12'03"	5053226	328397
000002-02-01-4101	SOUTHEASTERN	WILMER	125	44°26'23"	76°31'50"	4921637	378195
000002-02-01-5061	NORTHEASTERN	GOWGANDA	343	47°39'04"	80°46'32"	5277329	516647
000002-02-01-5171	NORTHEASTERN	HIGH FALLS	215	46°22'55"	81°32'43"	5136412	458068
000002-02-01-6051	NORTHWESTERN	FERNBERG	506	47°56'51"	91°29'26"	5311349	612714
000002-02-01-6071	NORTHWESTERN	QUETICO CENTRE	420	48°24'44"	91°12'08"	5363461	633036
000002-02-01-6131	NORTHWESTERN	DAWSON	381	48°33'38"	89°38'60"	5381779	304475
000002-02-01-7011	QUEBEC	SUTTON	243	45°04'35"	72°40'35"	4993846	682898
000002-02-01-7021	PENNSYLVANIA	PENN. STATE	120	40°47'18"	77°56'47"	4519229	251390

ONTARIO MINISTRY OF THE ENVIRONMENT
APIOS-ACIDIC PRECIPITATION IN ONTARIO STUDY
DAILY AMBIENT AIR SITES

STATION ID	MOE REGION	STATION NAME	ELEV (M)	LATITUDE (NORTH)	LONGITUDE (WEST)	UTM GRID CO-ORDINATES (NORTHING)	(EASTING)
000002-21-21-1011	SOUTHWESTERN	LONGWOODS	239	42°53'03"	81°28'50"	4747849	460756
000002-21-21-2011	SOUTHWESTERN	WELLESLEY	344	43°28'05"	80°45'33"	4812606	519481
000002-21-21-2031	SOUTHWESTERN	EGBERT	253	44°13'57"	79°46'53"	4898202	597322
000002-21-21-3011	CENTRAL	DORSET	320	45°13'25"	78°55'51"	5009656	662429
000002-21-21-3031	CENTRAL	BALSAM LAKE	259	44°37'45"	78°51'22"	4943776	670063
000002-21-21-4011	SOUTHEASTERN	CHARLESTON LAKE	92	44°29'50"	76°02'40"	4927414	416963
000002-21-21-5061	NORTHEASTERN	GOWGANDA	343	47°39'04"	80°46'32"	5277329	516647
000002-21-21-5171	NORTHEASTERN	HIGH FALLS	215	46°22'55"	81°32'43"	5136412	458068
000002-21-21-6051	NORTHWESTERN	FERNBERG	506	47°56'51"	91°29'26"	5311349	612714
000002-21-21-7021	PENNSYLVANIA	PENN. STATE	120	40°47'18"	77°56'47"	4519229	251390

PART III

SUMMARY STATISTICS OF PRECIPITATION CONCENTRATION BY STATION

ONTARIO MINISTRY OF THE ENVIRONMENT
SUMMARY STATISTICS OF PRECIPITATION CONCENTRATIONS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : BALSAM LAKE/DAILY/AEROCHEM 806

PERIOD OF REPORT : JAN 3,88 TO DEC 29,88

	PRECIP. MM	CONDUCT. UMHO/CM	PH FIELD	PH LAB	FREE H+ LAB MG/L	TOTAL H+ GRAN MG/L	SULPHATE MG/L
# OF SAMPLES :	128	122	77	125	125	125	124
MAXIMUM :	72.0	87.0	7.5	7.8	0.3311	0.3400	21.30
MINIMUM :	0.1	1.0	3.7	3.5	0.0000	0.0119	0.00
RANGE :	71.9	86.0	3.8	4.3	0.3311	0.3281	21.30
ARITH. MEAN :	5.9	25.9	4.5	4.9	0.0421	0.0681	2.73
ARITH. STD. DEV :	8.8	18.7	0.7	1.1	0.0469	0.0532	2.71
GEOM. MEAN :	2.7	19.0	4.5	4.8	0.0117	0.0509	1.86
1ST QUARTILE :	1.1	10.8	4.1	4.2	0.0079	0.0279	0.95
2ND QUARTILE :	3.3	22.0	4.3	4.5	0.0306	0.0527	2.02
3RD QUARTILE :	7.2	36.8	4.6	5.1	0.0646	0.0926	3.55
VOL. WGT. MEAN :	******	25.9	******	******	0.0488	0.0762	3.01

	NITRATE AS N MG/L	CALCIUM MG/L	CHLORIDE MG/L	MAGNESIM MG/L	POTASSIM MG/L	SODIUM MG/L	AMMONIUM AS N MG/L
# OF SAMPLES :	122	116	124	116	116	115	122
MAXIMUM :	2.620	5.500	1.270	0.700	0.805	0.705	1.640
MINIMUM :	0.000	0.020	0.000	0.000	0.000	0.005	0.000
RANGE :	2.620	5.480	1.270	0.700	0.805	0.700	1.640
ARITH. MEAN :	0.640	0.575	0.222	0.062	0.053	0.085	0.405
ARITH. STD. DEV :	0.493	0.707	0.243	0.083	0.099	0.115	0.391
GEOM. MEAN :	0.459	0.339	0.154	0.045	0.035	0.047	0.238
1ST QUARTILE :	0.255	0.160	0.060	0.015	0.015	0.020	0.121
2ND QUARTILE :	0.515	0.355	0.125	0.040	0.030	0.047	0.290
3RD QUARTILE :	0.930	0.730	0.310	0.070	0.055	0.105	0.530
VOL. WGT. MEAN :	0.569	0.421	0.163	0.052	0.034	0.062	0.410

NOTE(1): PRECIP. VALUES REPRESENT GAUGE DEPTH
***** : INSUFFICIENT DATA OR NOT APPLICABLE

ONTARIO MINISTRY OF THE ENVIRONMENT
SUMMARY STATISTICS OF PRECIPITATION CONCENTRATIONS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : CHARLESTON LAKE/DAILY/AEROCHEM #11

PERIOD OF REPORT : JAN 4,88 TO DEC 29,88

	PRECIP. MM	CONDUCT. UMHO/CM	PH FIELD	PH LAB	FREE H+ LAB MG/L	TOTAL H+ GRAN MG/L	SULPHATE MG/L
# OF SAMPLES :	104	91	33	93	93	93	95
MAXIMUM :	38.6	94.5	5.2	7.3	0.2818	0.3800	13.00
MINIMUM :	0.2	2.0	3.6	3.6	0.0000	0.0164	0.00
RANGE :	38.4	92.5	1.6	3.8	0.2818	0.3636	13.00
ARITH. MEAN :	7.2	31.8	4.3	4.4	0.0651	0.0953	3.33
ARITH. STD. DEV :	8.2	22.6	0.4	0.6	0.0582	0.0705	2.75
GEOM. MEAN :	3.7	23.6	4.3	4.4	0.0385	0.0750	2.30
1ST QUARTILE :	1.6	13.5	4.0	4.1	0.0254	0.0460	1.43
2ND QUARTILE :	4.4	24.5	4.2	4.3	0.0501	0.0731	2.45
3RD QUARTILE :	9.2	43.8	4.5	4.6	0.0822	0.1180	4.57
VOL. WGT. MEAN :	******	22.5	******	******	0.0454	0.0704	2.47

	NITRATE AS N MG/L	CALCIUM MG/L	CHLORIDE MG/L	MAGNESIM MG/L	POTASSIM MG/L	SODIUM MG/L	AMMONIUM AS N MG/L
# OF SAMPLES :	95	91	95	91	91	91	94
MAXIMUM :	3.460	3.520	1.530	0.790	0.255	0.690	1.720
MINIMUM :	0.020	0.000	0.000	0.000	0.000	0.000	0.026
RANGE :	3.440	3.520	1.530	0.790	0.255	0.690	1.694
ARITH. MEAN :	0.757	0.392	0.275	0.068	0.035	0.091	0.407
ARITH. STD. DEV :	0.643	0.521	0.333	0.102	0.039	0.131	0.346
GEOM. MEAN :	0.526	0.229	0.210	0.056	0.030	0.055	0.282
1ST QUARTILE :	0.310	0.060	0.050	0.010	0.012	0.017	0.180
2ND QUARTILE :	0.560	0.200	0.160	0.035	0.020	0.035	0.298
3RD QUARTILE :	1.055	0.540	0.310	0.087	0.040	0.100	0.558
VOL. WGT. MEAN :	0.425	0.203	0.177	0.034	0.023	0.041	0.307

NOTE(1): PRECIP. VALUES REPRESENT GAUGE DEPTH
***** : INSUFFICIENT DATA OR NOT APPLICABLE

ONTARIO MINISTRY OF THE ENVIRONMENT
SUMMARY STATISTICS OF PRECIPITATION CONCENTRATIONS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : DAWSON/DAILY/AEROCHEM./6131

PERIOD OF REPORT : DEC 31,87 TO DEC 30,88

	PRECIP. MM	CONDUCT. UMHO/CM	PH FIELD	PH LAB	FREE H+ LAB MG/L	TOTAL H+ GRAN MG/L	SULPHATE MG/L
# OF SAMPLES :	104	78	0	77	77	77	78
MAXIMUM :	46.6	95.5	******	7.4	0.0851	0.1220	7.55
MINIMUM :	0.1	1.0	******	4.1	0.0000	0.0153	0.00
RANGE :	46.5	94.5	******	3.3	0.0851	0.1067	7.55
ARITH. MEAN :	7.4	13.2	******	5.2	0.0148	0.0359	1.51
ARITH. STD. DEV :	8.0	13.1	******	0.7	0.0183	0.0222	1.48
GEOM. MEAN :	3.6	9.4	******	5.2	0.0060	0.0313	1.03
1ST QUARTILE :	2.0	5.8	******	4.7	0.0030	0.0217	0.63
2ND QUARTILE :	5.2	10.0	******	5.2	0.0064	0.0258	1.02
3RD QUARTILE :	9.6	17.0	******	5.5	0.0180	0.0390	1.85
VOL. WGT. MEAN :	******	10.8	******	******	0.0116	0.0325	1.37

	NITRATE AS N MG/L	CALCIUM MG/L	CHLORIDE MG/L	MAGNESIM MG/L	POTASSIM MG/L	SODIUM MG/L	AMMONIUM AS N MG/L
# OF SAMPLES :	78	79	78	79	79	78	79
MAXIMUM :	2.000	1.800	3.730	0.250	0.315	1.710	4.130
MINIMUM :	0.000	0.000	0.000	0.000	0.000	0.000	0.000
RANGE :	2.000	1.800	3.730	0.250	0.315	1.710	4.130
ARITH. MEAN :	0.353	0.284	0.159	0.041	0.046	0.105	0.360
ARITH. STD. DEV :	0.316	0.365	0.431	0.052	0.051	0.221	0.524
GEOM. MEAN :	0.259	0.240	0.164	0.050	0.043	0.060	0.232
1ST QUARTILE :	0.165	0.060	0.030	0.008	0.015	0.020	0.100
2ND QUARTILE :	0.280	0.140	0.080	0.025	0.025	0.040	0.260
3RD QUARTILE :	0.435	0.300	0.150	0.045	0.065	0.108	0.380
VOL. WGT. MEAN :	0.282	0.283	0.093	0.040	0.046	0.071	0.311

NOTE(1): PRECIP. VALUES REPRESENT GAUGE DEPTH
****** : INSUFFICIENT DATA OR NOT APPLICABLE

ONTARIO MINISTRY OF THE ENVIRONMENT
SUMMARY STATISTICS OF PRECIPITATION CONCENTRATIONS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : DORSET/DAILY/AEROCHEM #08

PERIOD OF REPORT : DEC 31,87 TO DEC 31,88

	PRECIP. MM	CONDUCT. UMHO/CM	PH FIELD	PH LAB	FREE H+ LAB MG/L	TOTAL H+ GRAN MG/L	SULPHATE MG/L
# OF SAMPLES :	218	186	119	193	193	194	189
MAXIMUM :	32.4	95.5	6.5	7.4	0.4266	0.5220	17.30
MINIMUM :	0.0	2.0	3.4	3.4	0.0000	0.0116	0.00
RANGE :	32.4	93.5	3.1	4.1	0.4265	0.5104	17.30
ARITH. MEAN :	4.7	25.7	4.4	4.6	0.0494	0.0756	2.53
ARITH. STD. DEV :	5.9	19.1	0.4	0.7	0.0517	0.0590	2.61
GEOM. MEAN :	1.8	18.9	4.4	4.5	0.0258	0.0598	1.57
1ST QUARTILE :	0.6	10.8	4.1	4.2	0.0158	0.0367	0.80
2ND QUARTILE :	2.2	22.3	4.3	4.4	0.0355	0.0604	1.80
3RD QUARTILE :	6.6	35.5	4.6	4.8	0.0684	0.0978	3.22
VOL. WGT. MEAN :	******	24.7	******	******	0.0484	0.0727	2.34

	NITRATE AS N MG/L	CALCIUM MG/L	CHLORIDE MG/L	MAGNESIM MG/L	POTASSIM MG/L	SODIUM MG/L	AMMONIUM AS N MG/L
# OF SAMPLES :	189	170	188	170	171	171	195
MAXIMUM :	4.200	2.220	10.860	0.475	0.885	1.010	2.150
MINIMUM :	0.000	0.000	0.000	0.000	0.000	0.000	0.000
RANGE :	4.200	2.220	10.860	0.475	0.885	1.010	2.150
ARITH. MEAN :	0.630	0.320	0.300	0.045	0.043	0.110	0.335
ARITH. STD. DEV :	0.594	0.443	0.844	0.066	0.076	0.154	0.363
GEOM. MEAN :	0.415	0.209	0.181	0.042	0.036	0.067	0.183
1ST QUARTILE :	0.200	0.060	0.065	0.010	0.015	0.025	0.070
2ND QUARTILE :	0.490	0.140	0.135	0.020	0.025	0.050	0.240
3RD QUARTILE :	0.920	0.320	0.295	0.050	0.050	0.130	0.438
VOL. WGT. MEAN :	0.511	0.211	0.172	0.031	0.029	0.071	0.330

NOTE(1): PRECIP. VALUES REPRESENT GAUGE DEPTH
***** : INSUFFICIENT DATA OR NOT APPLICABLE

ONTARIO MINISTRY OF THE ENVIRONMENT
SUMMARY STATISTICS OF PRECIPITATION CONCENTRATIONS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : EGBERT

PERIOD OF REPORT : NOV 29,88 TO DEC 31,88

	PRECIP. MM	CONDUCT. UMHO/CM	PH FIELD	PH LAB	FREE H+ LAB MG/L	TOTAL H+ GRAN MG/L	SULPHATE MG/L
# OF SAMPLES :	19	8	0	13	13	12	9
MAXIMUM :	7.8	25.0	******	6.3	0.0490	0.0740	3.50
MINIMUM :	0.2	4.0	******	4.3	0.0006	0.0127	0.10
RANGE :	7.6	21.0	******	1.9	0.0484	0.0613	3.40
ARITH. MEAN :	1.6	11.0	******	4.9	0.0203	0.0423	0.96
ARITH. STD. DEV :	2.3	7.0	******	0.6	0.0174	0.0208	1.09
GEOM. MEAN :	0.9	9.3	******	4.9	0.0121	0.0373	0.60
1ST QUARTILE :	0.4	6.3	******	4.4	0.0062	0.0250	0.32
2ND QUARTILE :	0.6	8.3	******	4.8	0.0128	0.0408	0.52
3RD QUARTILE :	1.1	15.0	******	5.1	0.0293	0.0592	0.70
VOL. WGT. MEAN :	******	10.4	******	******	0.0238	0.0430	1.08

	NITRATE AS N MG/L	CALCIUM MG/L	CHLORIDE MG/L	MAGNESIM MG/L	POTASSIM MG/L	SODIUM MG/L	AMMONIUM AS N MG/L
# OF SAMPLES :	9	9	9	9	9	9	8
MAXIMUM :	0.620	1.580	0.780	0.320	0.050	0.805	0.140
MINIMUM :	0.090	0.080	0.000	0.010	0.005	0.035	0.036
RANGE :	0.530	1.500	0.780	0.310	0.045	0.770	0.104
ARITH. MEAN :	0.316	0.444	0.267	0.071	0.019	0.290	0.092
ARITH. STD. DEV :	0.153	0.470	0.227	0.096	0.013	0.283	0.038
GEOM. MEAN :	0.278	0.301	0.180	0.042	0.016	0.178	0.084
1ST QUARTILE :	0.215	0.160	0.095	0.020	0.010	0.075	0.058
2ND QUARTILE :	0.305	0.230	0.235	0.032	0.015	0.150	0.100
3RD QUARTILE :	0.335	0.460	0.290	0.065	0.020	0.322	0.122
VOL. WGT. MEAN :	0.268	0.263	0.279	0.043	0.019	0.171	0.083

NOTE(1): PRECIP. VALUES REPRESENT GAUGE DEPTH
***** : INSUFFICIENT DATA OR NOT APPLICABLE

ONTARIO MINISTRY OF THE ENVIRONMENT
SUMMARY STATISTICS OF PRECIPITATION CONCENTRATIONS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : FERNBERG/DAILY/AEROCHEM #16

PERIOD OF REPORT : JAN 1,88 TO DEC 31,88

	PRECIP. MM	CONDUCT. UMHO/CM	PH FIELD	PH LAB	FREE H+ LAB MG/L	TOTAL H+ GRAN MG/L	SULPHATE MG/L
# OF SAMPLES :	153	112	0	108	108	108	114
MAXIMUM :	69.2	42.5	******	7.3	0.0661	0.0958	8.10
MINIMUM :	0.1	0.5	******	4.2	0.0001	0.0103	0.00
RANGE :	69.1	42.0	******	3.1	0.0660	0.0855	8.10
ARITH. MEAN :	5.8	8.9	******	5.6	0.0079	0.0262	1.11
ARITH. STD. DEV :	9.9	7.8	******	.6	0.0118	0.0142	1.25
GEOM. MEAN :	1.7	6.4	******	5.6	0.0022	0.0236	0.72
1ST QUARTILE :	0.5	3.5	******	5.1	0.0004	0.0175	0.35
2ND QUARTILE :	2.3	7.0	******	5.4	0.0036	0.0206	0.80
3RD QUARTILE :	6.4	11.0	******	6.4	0.0087	0.0292	1.25
VOL. WGT. MEAN :	******	7.1	******	******	0.0076	0.0260	0.92

	NITRATE AS N MG/L	CALCIUM MG/L	CHLORIDE MG/L	MAGNESIM MG/L	POTASSIM MG/L	SODIUM MG/L	AMMONIUM AS N MG/L
# OF SAMPLES :	114	106	114	106	106	106	120
MAXIMUM :	1.590	1.900	0.840	0.330	0.320	1.830	2.010
MINIMUM :	0.000	0.000	0.000	0.000	0.000	0.000	0.000
RANGE :	1.590	1.900	0.840	0.330	0.320	1.830	2.010
ARITH. MEAN :	0.300	0.256	0.094	0.043	0.044	0.077	0.306
ARITH. STD. DEV :	0.265	0.360	0.106	0.065	0.053	0.220	0.361
GEOM. MEAN :	0.211	0.216	0.116	0.054	0.038	0.046	0.157
1ST QUARTILE :	0.115	0.040	0.040	0.010	0.012	0.015	0.066
2ND QUARTILE :	0.240	0.140	0.070	0.020	0.025	0.030	0.188
3RD QUARTILE :	0.400	0.260	0.120	0.035	0.050	0.055	0.395
VOL. WGT. MEAN :	0.227	0.151	0.054	0.025	0.031	0.031	0.282

NOTE(1): PRECIP. VALUES REPRESENT GAUGE DEPTH
***** : INSUFFICIENT DATA OR NOT APPLICABLE

ONTARIO MINISTRY OF THE ENVIRONMENT
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY
SUMMARY STATISTICS OF CONCENTRATION

STATION =GOWGANDA AEROCHEM SITE NO.1

	EQUIVALENT PREC. DEPTH MM	CONDUCT UMHO/CM	FIELD.PH	LAB.PH	SULFATE MG/L	NITRATE MG/L	CALCIUM MG/L
# OF SAMPLES :	167.0	167	167	167	167	167	167
MAXIMUM :	37.0	80.00	5.250	7.64	31.40	1.88	0.90
MINIMUM :	0.0	1.00	3.560	3.55	0.10	0.00	0.00
ARITH. MEAN :	4.2	17.58	4.446	4.77	2.11	0.34	0.15
ARITH. STD. DEV :	6.2	16.78	0.397	0.67	3.62	0.41	0.16
GEOM. MEAN :	4.2	11.18	4.428	4.73	1.14	0.19	0.12
1ST QUARTILE :	0.2	5.00	4.140	4.32	0.50	0.03	0.04
2ND QUARTILE :	1.3	13.50	4.400	4.66	1.20	0.19	0.10
3RD QUARTILE :	5.8	24.13	4.720	5.13	2.20	0.47	0.24
VOL. WGT. MEAN :	1.4	14.23	4.493	4.77	1.53	0.25	0.12
MISSING VALUES :	32.0	79	100	79	78	78	83

	CHLORIDE MG/L	MAGNESIUM MG/L	POTASSIUM MG/L	SODIUM MG/L	AMMONIUM MG/L	ACIDITY GRAN UG/L	FREEH+ LAB UG/L
# OF SAMPLES :	167	167	167	167	167	167	167.00
MAXIMUM :	0.66	0.170	0.290	0.540	2.180	297.00	281.84
MINIMUM :	0.00	0.000	0.000	0.000	0.000	12.30	0.02
ARITH. MEAN :	0.11	0.024	0.040	0.068	0.217	61.40	36.53
ARITH. STD. DEV :	0.12	0.028	0.047	0.083	0.307	52.57	48.31
GEOM. MEAN :	0.09	0.020	0.028	0.044	0.110	47.91	36.53
1ST QUARTILE :	0.02	0.005	0.010	0.016	0.030	28.12	7.47
2ND QUARTILE :	0.08	0.015	0.025	0.040	0.126	46.60	21.64
3RD QUARTILE :	0.16	0.035	0.050	0.092	0.288	77.67	47.86
VOL. WGT. MEAN :	0.06	0.019	0.023	0.033	0.192	52.22	47.86
MISSING VALUES :	77	83	84	83	74	79	79.00

ONTARIO MINISTRY OF THE ENVIRONMENT
SUMMARY STATISTICS OF PRECIPITATION CONCENTRATIONS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : HIGH FALLS

PERIOD OF REPORT : APR 14,88 TO DEC 31,88

	PRECIP. MM	CONDUCT. UMHO/CM	PH FIELD	PH LAB	FREE H+ LAB MG/L	TOTAL H+ GRAN MG/L	SULPHATE MG/L
# OF SAMPLES :	114	79	60	91	91	91	82
MAXIMUM :	38.2	89.0	5.8	7.4	0.2754	0.3220	14.20
MINIMUM :	0.0	2.0	3.6	3.6	0.0000	0.0140	0.00
RANGE :	38.2	87.0	2.3	3.8	0.2754	0.3080	14.20
ARITH. MEAN :	5.0	25.1	4.3	4.7	0.0504	0.0779	2.54
ARITH. STD. DEV :	7.8	21.5	0.4	0.8	0.0592	0.0686	2.53
GEOM. MEAN :	1.7	16.8	4.3	4.6	0.0211	0.0576	1.74
1ST QUARTILE :	0.5	8.3	4.1	4.2	0.0101	0.0319	0.77
2ND QUARTILE :	2.0	20.3	4.3	4.5	0.0275	0.0550	1.80
3RD QUARTILE :	5.5	31.5	4.5	4.9	0.0624	0.0893	3.25
VOL. WGT. MEAN :	******	23.9	******	******	0.0490	0.0766	2.31

	NITRATE AS N MG/L	CALCIUM MG/L	CHLORIDE MG/L	MAGNESIM MG/L	POTASSIM MG/L	SODIUM MG/L	AMMONIUM AS N MG/L
# OF SAMPLES :	81	84	82	84	83	84	86
MAXIMUM :	2.900	1.680	0.900	0.220	0.805	0.360	1.960
MINIMUM :	0.000	0.000	0.000	0.000	0.000	0.000	0.000
RANGE :	2.900	1.680	0.900	0.220	0.805	0.360	1.960
ARITH. MEAN :	0.569	0.230	0.172	0.039	0.083	0.077	0.375
ARITH. STD. DEV :	0.594	0.288	0.170	0.044	0.138	0.073	0.428
GEOM. MEAN :	0.358	0.171	0.180	0.039	0.051	0.055	0.193
1ST QUARTILE :	0.175	0.060	0.065	0.010	0.025	0.030	0.040
2ND QUARTILE :	0.370	0.120	0.120	0.020	0.040	0.047	0.256
3RD QUARTILE :	0.730	0.370	0.230	0.050	0.077	0.105	0.520
VOL. WGT. MEAN :	0.490	0.157	0.124	0.027	0.041	0.053	0.342

NOTE(1): PRECIP. VALUES REPRESENT GAUGE DEPTH
****** : INSUFFICIENT DATA OR NOT APPLICABLE

ONTARIO MINISTRY OF THE ENVIRONMENT
SUMMARY STATISTICS OF PRECIPITATION CONCENTRATIONS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : LONGWOODS/DAILY/AEROCHEM #02

PERIOD OF REPORT : JAN 13,88 TO DEC 28,88

	PRECIP. MM	CONDUCT. UMHO/CM	PH FIELD	PH LAB	FREE H+ LAB MG/L	TOTAL H+ GRAN MG/L	SULPHATE MG/L
# OF SAMPLES :	120	99	70	107	107	107	104
MAXIMUM :	69.0	88.5	7.4	7.9	0.2692	0.3150	13.60
MINIMUM :	0.1	1.5	3.0	3.6	0.0000	0.0044	0.20
RANGE :	68.9	87.0	4.4	4.4	0.2691	0.3106	13.40
ARITH. MEAN :	7.4	33.9	4.3	5.1	0.0456	0.0727	4.00
ARITH. STD. DEV :	10.7	20.7	0.9	1.3	0.0548	0.0617	2.76
GEOM. MEAN :	3.7	27.3	4.2	5.0	0.0077	0.0512	3.02
1ST QUARTILE :	1.6	17.0	3.8	4.2	0.0007	0.0233	2.02
2ND QUARTILE :	3.7	29.8	4.1	4.5	0.0285	0.0524	3.27
3RD QUARTILE :	9.1	46.5	4.5	6.0	0.0646	0.1025	5.48
VOL. WGT. MEAN :	******	29.8	******	******	0.0513	0.0776	3.41

	NITRATE AS N MG/L	CALCIUM MG/L	CHLORIDE MG/L	MAGNESIM MG/L	POTASSIM MG/L	SODIUM MG/L	AMMONIUM AS N MG/L
# OF SAMPLES :	104	93	106	93	94	94	107
MAXIMUM :	4.490	5.120	3.850	0.985	1.040	1.510	3.400
MINIMUM :	0.000	0.000	0.000	0.000	0.010	0.000	0.046
RANGE :	4.490	5.120	3.850	0.985	1.030	1.510	3.354
ARITH. MEAN :	0.862	0.843	0.436	0.152	0.143	0.156	0.716
ARITH. STD. DEV :	0.709	0.897	0.540	0.180	0.175	0.204	0.660
GEOM. MEAN :	0.627	0.531	0.315	0.098	0.086	0.098	0.496
1ST QUARTILE :	0.370	0.240	0.150	0.035	0.042	0.047	0.266
2ND QUARTILE :	0.630	0.570	0.280	0.092	0.075	0.095	0.500
3RD QUARTILE :	1.230	0.950	0.460	0.163	0.165	0.170	0.883
VOL. WGT. MEAN :	0.573	0.437	0.234	0.081	0.077	0.092	0.501

NOTE(1): PRECIP. VALUES REPRESENT GAUGE DEPTH
***** : INSUFFICIENT DATA OR NOT APPLICABLE

ONTARIO MINISTRY OF THE ENVIRONMENT
SUMMARY STATISTICS OF PRECIPITATION CONCENTRATIONS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : MELBOURNE/DAILY/AEROCHEM #01

PERIOD OF REPORT : JAN 3,88 TO DEC 30,88

	PRECIP. MM	CONDUCT. UMHO/CM	PH FIELD	PH LAB	FREE H+ LAB MG/L	TOTAL H+ GRAN MG/L	SULPHATE MG/L
# OF SAMPLES :	129	101	69	112	112	112	109
MAXIMUM :	40.2	86.5	6.7	8.1	0.2884	0.4180	17.30
MINIMUM :	0.1	2.0	3.1	3.5	0.0000	0.0000	0.00
RANGE :	40.1	84.5	3.6	4.6	0.2884	0.4180	17.30
ARITH. MEAN :	5.1	34.8	4.3	4.9	0.0544	0.0827	4.29
ARITH. STD. DEV :	6.9	20.2	0.8	1.2	0.0568	0.0671	3.06
GEOM. MEAN :	2.3	28.6	4.2	4.8	0.0128	0.0627	3.34
1ST QUARTILE :	1.0	18.0	3.7	4.1	0.0079	0.0296	2.07
2ND QUARTILE :	2.2	29.8	4.1	4.4	0.0442	0.0703	3.32
3RD QUARTILE :	6.8	48.5	4.5	5.1	0.0776	0.1160	5.88
VOL. WGT. MEAN :	******	30.9	******	******	0.0570	0.0837	3.53

	NITRATE AS N MG/L	CALCIUM MG/L	CHLORIDE MG/L	MAGNESIM MG/L	POTASSIM MG/L	SODIUM MG/L	AMMONIUM AS N MG/L
# OF SAMPLES :	109	100	109	100	99	99	111
MAXIMUM :	3.130	4.360	1.500	0.930	0.885	0.875	3.250
MINIMUM :	0.000	0.000	0.000	0.000	0.000	0.005	0.000
RANGE :	3.130	4.360	1.500	0.930	0.885	0.870	3.250
ARITH. MEAN :	0.884	0.745	0.356	0.130	0.088	0.130	0.752
ARITH. STD. DEV :	0.631	0.771	0.296	0.149	0.105	0.157	0.617
GEOM. MEAN :	0.664	0.430	0.[illegible]	0.086	0.063	0.077	0.535
1ST QUARTILE :	0.385	0.160	0.155	0.030	0.025	0.042	0.306
2ND QUARTILE :	0.745	0.480	0.265	0.080	0.057	0.075	0.598
3RD QUARTILE :	1.270	1.130	0.465	0.175	0.118	0.135	0.983
VOL. WGT. MEAN :	0.614	0.444	0.206	0.077	0.054	0.075	0.533

NOTE(1): PRECIP. VALUES REPRESENT GAUGE DEPTH
***** : INSUFFICIENT DATA OR NOT APPLICABLE

ONTARIO MINISTRY OF THE ENVIRONMENT
SUMMARY STATISTICS OF PRECIPITATION CONCENTRATIONS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : NITHGROVE/DAILY/AEROCHEM 807

PERIOD OF REPORT : DEC 31,87 TO DEC 31,88

	PRECIP. MM	CONDUCT. UMHO/CM	PH FIELD	PH LAB	FREE H+ LAB MG/L	TOTAL H+ GRAN MG/L	SULPHATE MG/L
# OF SAMPLES	135	110	83	120	120	120	115
MAXIMUM	30.4	93.0	7.1	7.5	0.2818	0.3560	11.50
MINIMUM	0.0	2.0	3.6	3.6	0.0000	0.0154	0.10
RANGE	30.4	91.0	3.5	4.0	0.2818	0.3406	11.20
ARITH. MEAN	5.1	24.1	4.6	4.8	0.0417	0.0677	2.39
ARITH. STD. DEV	6.0	18.5	0.7	0.9	0.0422	0.0491	2.03
GEOM. MEAN	2.3	17.2	4.5	4.7	0.0169	0.0541	1.66
1ST QUARTILE	0.9	9.0	4.2	4.2	0.0106	0.0308	0.85
2ND QUARTILE	2.8	19.5	4.3	4.5	0.0316	0.0544	1.88
3RD QUARTILE	7.0	34.0	4.8	5.0	0.0624	0.0924	3.27
VOL. WGT. MEAN	######	24.0	######	######	0.0442	0.0711	2.46

	NITRATE AS N MG/L	CALCIUM MG/L	CHLORIDE MG/L	MAGNESIM MG/L	POTASSIM MG/L	SODIUM MG/L	AMMONIUM AS N MG/L
# OF SAMPLES	113	108	116	107	108	108	123
MAXIMUM	2.500	2.340	1.090	0.275	0.310	0.670	3.700
MINIMUM	0.030	0.000	0.000	0.000	0.010	0.005	0.006
RANGE	2.470	2.340	1.090	0.275	0.300	0.665	3.694
ARITH. MEAN	0.572	0.304	0.204	0.040	0.057	0.080	0.489
ARITH. STD. DEV	0.490	0.430	0.198	0.054	0.052	0.099	0.573
GEOM. MEAN	0.374	0.184	0.170	0.045	0.040	0.048	0.268
1ST QUARTILE	0.195	0.060	0.070	0.010	0.020	0.025	0.115
2ND QUARTILE	0.445	0.160	0.140	0.020	0.040	0.040	0.310
3RD QUARTILE	0.865	0.340	0.260	0.045	0.070	0.113	0.659
VOL. WGT. MEAN	0.482	0.208	0.147	0.029	0.039	0.050	0.414

NOTE(1): PRECIP. VALUES REPRESENT GAUGE DEPTH
: INSUFFICIENT DATA OR NOT APPLICABLE

ONTARIO MINISTRY OF THE ENVIRONMENT
SUMMARY STATISTICS OF PRECIPITATION CONCENTRATIONS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : NORTH EASTHOPE/DAILY/AEROCHEM #03

PERIOD OF REPORT : DEC 31,87 TO DEC 30,88

	PRECIP. MM	CONDUCT. UMHO/CM	PH FIELD	PH LAB	FREE H+ LAB MG/L	TOTAL H+ GRAN MG/L	SULPHATE MG/L
# OF SAMPLES :	173	132	81	148	148	150	142
MAXIMUM :	38.4	82.0	6.3	7.8	0.4074	0.4010	15.00
MINIMUM :	0.1	2.0	3.0	3.4	0.0000	0.0091	0.25
RANGE :	38.3	80.0	3.3	4.4	0.4074	0.3919	14.75
ARITH. MEAN :	5.2	24.9	4.2	5.2	0.0377	0.0620	3.29
ARITH. STD. DEV :	6.9	17.0	0.6	1.3	0.0561	0.0602	2.84
GEOM. MEAN :	2.5	19.4	4.2	5.1	0.0057	0.0433	2.30
1ST QUARTILE :	0.9	12.8	3.8	4.3	0.0002	0.0201	1.47
2ND QUARTILE :	2.3	20.5	4.1	4.6	0.0232	0.0494	2.45
3RD QUARTILE :	5.8	34.3	4.4	6.7	0.0468	0.0762	4.42
VOL. WGT. MEAN :	******	24.2	******	******	0.0424	0.0673	2.90

	NITRATE AS N MG/L	CALCIUM MG/L	CHLORIDE MG/L	MAGNESIM MG/L	POTASSIM MG/L	SODIUM MG/L	AMMONIUM AS N MG/L
# OF SAMPLES :	142	138	142	138	137	138	151
MAXIMUM :	2.750	4.180	1.410	0.815	1.100	0.750	2.120
MINIMUM :	0.010	0.000	0.000	0.000	0.000	0.005	0.000
RANGE :	2.740	4.180	1.410	0.815	1.100	0.745	2.120
ARITH. MEAN :	0.648	0.643	0.235	0.129	0.052	0.090	0.606
ARITH. STD. DEV :	0.500	0.723	0.210	0.163	0.099	0.109	0.507
GEOM. MEAN :	0.448	0.374	0.202	0.078	0.036	0.056	0.434
1ST QUARTILE :	0.285	0.180	0.090	0.030	0.015	0.032	0.228
2ND QUARTILE :	0.535	0.410	0.170	0.075	0.030	0.050	0.410
3RD QUARTILE :	0.890	0.840	0.335	0.152	0.057	0.110	0.808
VOL. WGT. MEAN :	0.512	0.392	0.197	0.080	0.036	0.072	0.493

NOTE(1): PRECIP. VALUES REPRESENT GAUGE DEPTH
****** : INSUFFICIENT DATA OR NOT APPLICABLE

ONTARIO MINISTRY OF THE ENVIRONMENT
SUMMARY STATISTICS OF PRECIPITATION CONCENTRATIONS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : PENN. STATE

PERIOD OF REPORT : MAY 16,88 TO DEC 28,88

	PRECIP. MM	CONDUCT. UMHO/CM	PH FIELD	PH LAB	FREE H+ LAB MG/L	TOTAL H+ GRAN MG/L	SULPHATE MG/L
# OF SAMPLES :	50	35	0	40	40	40	36
MAXIMUM :	30.4	94.5	******	5.6	0.2089	0.2280	7.85
MINIMUM :	0.1	3.0	******	3.7	0.0027	0.0129	0.50
RANGE :	30.3	91.5	******	1.9	0.2062	0.2151	7.35
ARITH. MEAN :	7.1	28.8	******	4.4	0.0587	0.0848	2.79
ARITH. STD. DEV :	8.9	18.8	******	0.4	0.0406	0.0497	1.89
GEOM. MEAN :	2.6	23.4	******	4.3	0.0431	0.0711	2.27
1ST QUARTILE :	0.6	16.0	******	4.1	0.0363	0.0549	1.52
2ND QUARTILE :	3.0	24.8	******	4.3	0.0562	0.0793	2.30
3RD QUARTILE :	8.8	38.5	******	4.4	0.0759	0.1055	3.38
VOL. WGT. MEAN :	******	24.5	******	******	0.0514	0.0728	2.38

	NITRATE AS N MG/L	CALCIUM MG/L	CHLORIDE MG/L	MAGNESIM MG/L	POTASSIM MG/L	SODIUM MG/L	AMMONIUM AS N MG/L
# OF SAMPLES :	36	37	36	37	37	37	40
MAXIMUM :	1.280	0.880	1.170	0.170	0.145	1.340	1.440
MINIMUM :	0.070	0.000	0.000	0.000	0.000	0.005	0.020
RANGE :	1.210	0.880	1.170	0.170	0.145	1.335	1.420
ARITH. MEAN :	0.485	0.192	0.206	0.034	0.033	0.120	0.238
ARITH. STD. DEV :	0.334	0.217	0.226	0.042	0.039	0.254	0.281
GEOM. MEAN :	0.377	0.143	0.164	0.047	0.034	0.037	0.155
1ST QUARTILE :	0.215	0.040	0.060	0.008	0.010	0.015	0.085
2ND QUARTILE :	0.400	0.100	0.130	0.015	0.015	0.022	0.155
3RD QUARTILE :	0.640	0.260	0.250	0.042	0.035	0.095	0.266
VOL. WGT. MEAN :	0.337	0.092	0.109	0.016	0.016	0.037	0.189

NOTE(1): PRECIP. VALUES REPRESENT GAUGE DEPTH
****** : INSUFFICIENT DATA OR NOT APPLICABLE

ONTARIO MINISTRY OF THE ENVIRONMENT
SUMMARY STATISTICS OF PRECIPITATION CONCENTRATIONS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : QUETICO CENTRE/DAILY/AEROCHEM #14

PERIOD OF REPORT : JAN 7,88 TO DEC 28,88

	PRECIP. MM	CONDUCT. UMHO/CM	PH FIELD	PH LAB	FREE H+ LAB MG/L	TOTAL H+ GRAN MG/L	SULPHATE MG/L
# OF SAMPLES :	84	68	0	69	69	69	68
MAXIMUM :	140.0	62.0	******	7.2	0.0871	0.1230	8.55
MINIMUM :	0.1	1.0	******	4.1	0.0001	0.0154	0.10
RANGE :	139.9	61.0	******	3.2	0.0870	0.1076	8.45
ARITH. MEAN :	10.7	11.7	******	5.3	0.0122	0.0333	1.43
ARITH. STD. DEV :	16.5	11.0	******	0.7	0.0167	0.0202	[illegible]
GEOM. MEAN :	5.6	8.5	******	5.3	0.0045	0.0295	0.99
1ST QUARTILE :	3.7	6.0	******	4.8	0.0014	0.0207	0.57
2ND QUARTILE :	6.6	8.0	******	5.2	0.0060	0.0268	0.95
3RD QUARTILE :	12.3	14.5	******	5.8	0.0150	0.0340	1.77
VOL. WGT. MEAN :	******	7.6	******	******	0.0088	0.0288	0.94

	NITRATE AS N MG/L	CALCIUM MG/L	CHLORIDE MG/L	MAGNESIM MG/L	POTASSIM MG/L	SODIUM MG/L	AMMONIUM AS N MG/L
# OF SAMPLES :	68	68	68	68	68	68	69
MAXIMUM :	2.210	3.020	0.550	0.495	0.325	0.690	1.690
MINIMUM :	0.020	0.000	0.000	0.000	0.000	0.000	0.022
RANGE :	2.190	3.020	0.550	0.495	0.325	0.690	1.668
ARITH. MEAN :	0.363	0.310	0.102	0.047	0.049	0.072	0.377
ARITH. STD. DEV :	0.385	0.518	0.106	0.080	0.061	0.122	0.371
GEOM. MEAN :	0.245	0.187	0.118	0.044	0.048	0.042	0.238
1ST QUARTILE :	0.175	0.070	0.040	0.010	0.015	0.015	0.108
2ND QUARTILE :	0.245	0.140	0.060	0.025	0.030	0.025	0.278
3RD QUARTILE :	0.425	0.320	0.125	0.042	0.057	0.062	0.517
VOL. WGT. MEAN :	0.222	0.169	0.057	0.025	0.031	0.039	0.254

NOTE(1): PRECIP. VALUES REPRESENT GAUGE DEPTH
***** : INSUFFICIENT DATA OR NOT APPLICABLE

ONTARIO MINISTRY OF THE ENVIRONMENT
SUMMARY STATISTICS OF PRECIPITATION CONCENTRATIONS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : RAILTON/DAILY/AEROCHEM #10

PERIOD OF REPORT : JAN 8,88 TO DEC 29,88

	PRECIP. MM	CONDUCT. UMHO/CM	PH FIELD	PH LAB	FREE H+ LAB MG/L	TOTAL H+ GRAN MG/L	SULPHATE MG/L
# OF SAMPLES :	60	48	21	51	51	51	53
MAXIMUM :	28.2	90.0	7.0	7.5	0.2884	0.3630	14.25
MINIMUM :	0.2	3.0	3.7	3.5	0.0000	0.0000	0.40
RANGE :	28.0	87.0	3.3	3.9	0.2884	0.3630	13.85
ARITH. MEAN :	6.4	34.6	4.5	4.5	0.0683	0.1017	4.46
ARITH. STD. DEV :	6.4	21.1	0.9	0.9	0.0618	0.0811	3.28
GEOM. MEAN :	3.7	27.8	4.5	4.4	0.0311	0.0828	3.27
1ST QUARTILE :	2.0	19.3	4.1	4.0	0.0343	0.0516	1.93
2ND QUARTILE :	4.2	27.3	4.2	4.3	0.0513	0.0827	3.21
3RD QUARTILE :	8.0	47.8	4.4	4.4	0.0873	0.1150	6.57
VOL. WGT. MEAN :	######	30.0	######	######	0.0565	0.0868	3.53

	NITRATE AS N MG/L	CALCIUM MG/L	CHLORIDE MG/L	MAGNESIM MG/L	POTASSIM MG/L	SODIUM MG/L	AMMONIUM AS N MG/L
# OF SAMPLES :	53	50	53	50	51	51	50
MAXIMUM :	3.220	4.500	2.320	0.865	0.420	1.710	1.690
MINIMUM :	0.000	0.000	0.000	0.000	0.000	0.000	0.084
RANGE :	3.220	4.500	2.320	0.865	0.420	1.710	1.606
ARITH. MEAN :	0.901	0.743	0.328	0.103	0.077	0.126	0.632
ARITH. STD. DEV :	0.728	0.857	0.428	0.145	0.091	0.256	0.455
GEOM. MEAN :	0.667	0.489	0.192	0.062	0.056	0.078	0.474
1ST QUARTILE :	0.330	0.210	0.090	0.025	0.017	0.030	0.250
2ND QUARTILE :	0.715	0.480	0.145	0.065	0.045	0.045	0.453
3RD QUARTILE :	1.225	0.870	0.380	0.103	0.080	0.105	0.983
VOL. WGT. MEAN :	0.652	0.452	0.206	0.058	0.048	0.087	0.488

NOTE(1): PRECIP. VALUES REPRESENT GAUGE DEPTH
: INSUFFICIENT DATA OR NOT APPLICABLE

ONTARIO MINISTRY OF THE ENVIRONMENT
SUMMARY STATISTICS OF PRECIPITATION CONCENTRATIONS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : RAVEN LAKE/DAILY/AEROCHEM 805

PERIOD OF REPORT : DEC 31,87 TO DEC 31,88

	PRECIP. MM	CONDUCT. UMHO/CM	PH FIELD	PH LAB	FREE H+ LAB MG/L	TOTAL H+ GRAN MG/L	SULPHATE MG/L
# OF SAMPLES :	167	132	71	137	137	137	136
MAXIMUM :	40.0	90.5	6.9	7.8	0.4169	0.5140	12.40
MINIMUM :	0.0	0.5	3.8	3.4	0.0000	0.0117	0.00
RANGE :	40.0	90.0	3.1	4.4	0.4169	0.5023	12.40
ARITH. MEAN :	4.6	26.2	4.5	4.9	0.0448	0.0724	2.62
ARITH. STD. DEV :	6.0	20.2	0.6	1.0	0.0600	0.0710	2.28
GEOM. MEAN :	2.1	18.4	4.5	4.8	0.0132	0.0521	1.84
1ST QUARTILE :	0.8	10.0	4.2	4.2	0.0048	0.0247	1.00
2ND QUARTILE :	2.0	22.0	4.4	4.5	0.0279	0.0520	1.95
3RD QUARTILE :	6.1	36.8	4.7	5.3	0.0603	0.0927	3.42
VOL. WGT. MEAN :	******	28.1	******	******	0.0469	0.0747	2.88

	NITRATE AS N MG/L	CALCIUM MG/L	CHLORIDE MG/L	MAGNESIM MG/L	POTASSIM MG/L	SODIUM MG/L	AMMONIUM AS N MG/L
# OF SAMPLES :	134	124	137	124	123	124	140
MAXIMUM :	2.630	3.440	1.720	0.430	0.445	1.310	1.980
MINIMUM :	0.020	0.000	0.000	0.000	0.000	0.000	0.004
RANGE :	2.610	3.440	1.720	0.430	0.445	1.310	1.976
ARITH. MEAN :	0.615	0.523	0.221	0.057	0.046	0.085	0.435
ARITH. STD. DEV :	0.525	0.674	0.264	0.074	0.064	0.150	0.458
GEOM. MEAN :	0.395	0.312	0.157	0.042	0.034	0.054	0.229
1ST QUARTILE :	0.205	0.120	0.065	0.010	0.010	0.020	0.138
2ND QUARTILE :	0.490	0.260	0.140	0.035	0.025	0.037	0.256
3RD QUARTILE :	0.855	0.620	0.275	0.067	0.050	0.100	0.503
VOL. WGT. MEAN :	0.518	0.352	0.132	0.044	0.028	0.045	0.435

NOTE(1): PRECIP. VALUES REPRESENT GAUGE DEPTH
***** : INSUFFICIENT DATA OR NOT APPLICABLE

ONTARIO MINISTRY OF THE ENVIRONMENT
SUMMARY STATISTICS OF PRECIPITATION CONCENTRATIONS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : SUTTON/DAILY/AEROCHEM./7011

PERIOD OF REPORT : DEC 31,87 TO APR 26,88

	PRECIP. MM	CONDUCT. UMHO/CM	PH FIELD	PH LAB	FREE H+ LAB MG/L	TOTAL H+ GRAN MG/L	SULPHATE MG/L
# OF SAMPLES	76	40	0	36	36	37	41
MAXIMUM	20.2	91.0	******	7.2	0.2512	0.3070	9.10
MINIMUM	0.1	3.0	******	3.6	0.0001	0.0149	0.10
RANGE	20.1	88.0	******	3.6	0.2511	0.2921	9.00
ARITH. MEAN	3.4	26.8	******	4.6	0.0528	0.0792	2.04
ARITH. STD. DEV	4.7	20.2	******	0.8	0.0484	0.0565	1.97
GEOM. MEAN	1.1	19.7	******	4.5	0.0270	0.0636	1.33
1ST QUARTILE	0.2	11.5	******	4.2	0.0272	0.0441	0.72
2ND QUARTILE	1.3	23.0	******	4.4	0.0380	0.0657	1.68
3RD QUARTILE	4.9	38.8	******	4.6	0.0661	0.1050	2.40
VOL. WGT. MEAN	******	23.3	******	******	0.0446	0.0682	1.71

	NITRATE AS N MG/L	CALCIUM MG/L	CHLORIDE MG/L	MAGNESIM MG/L	POTASSIM MG/L	SODIUM MG/L	AMMONIUM AS N MG/L
# OF SAMPLES	41	29	41	29	29	29	40
MAXIMUM	3.100	1.900	1.480	0.365	0.100	0.500	2.000
MINIMUM	0.020	0.000	0.020	0.000	0.000	0.000	0.000
RANGE	3.080	1.900	1.460	0.365	0.100	0.500	2.000
ARITH. MEAN	0.738	0.254	0.219	0.031	0.018	0.084	0.304
ARITH. STD. DEV	0.724	0.404	0.278	0.070	0.023	0.111	0.397
GEOM. MEAN	0.461	0.189	0.124	0.083	0.025	0.068	0.158
1ST QUARTILE	0.270	0.030	0.055	0.000	0.005	0.025	0.042
2ND QUARTILE	0.485	0.120	0.140	0.010	0.010	0.040	0.210
3RD QUARTILE	0.960	0.250	0.225	0.027	0.017	0.090	0.355
VOL. WGT. MEAN	0.518	0.132	0.116	0.014	0.012	0.062	0.244

NOTE(1): PRECIP. VALUES REPRESENT GAUGE DEPTH
****** : INSUFFICIENT DATA OR NOT APPLICABLE

ONTARIO MINISTRY OF THE ENVIRONMENT
SUMMARY STATISTICS OF PRECIPITATION CONCENTRATIONS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : WELLESLEY/DAILY/AEROCHEM 804

PERIOD OF REPORT : JAN 1,88 TO DEC 30,88

	PRECIP. MM	CONDUCT. UMHO/CM	PH FIELD	PH LAB	FREE H+ LAB MG/L	TOTAL H+ GRAN MG/L	SULPHATE MG/L
# OF SAMPLES :	161	122	73	135	135	135	131
MAXIMUM :	44.9	84.0	6.6	7.6	0.4169	0.4040	18.00
MINIMUM :	0.1	3.0	3.1	3.4	0.0000	0.0081	0.20
RANGE :	44.8	81.0	3.5	4.3	0.4168	0.3959	17.80
ARITH. MEAN :	5.1	28.7	4.4	5.2	0.0410	0.0660	3.69
ARITH. STD. DEV :	6.7	19.3	0.8	1.2	0.0615	0.0630	3.04
GEOM. MEAN :	2.5	22.8	4.3	5.1	0.0065	0.0468	2.68
1ST QUARTILE :	1.1	13.0	3.8	4.2	0.0003	0.0227	1.65
2ND QUARTILE :	2.9	23.8	4.2	4.7	0.0204	0.0457	2.57
3RD QUARTILE :	6.0	37.0	4.6	6.4	0.0617	0.0915	4.92
VOL. WGT. MEAN :	******	26.6	******	******	0.0432	0.0675	3.18

	NITRATE AS N MG/L	CALCIUM MG/L	CHLORIDE MG/L	MAGNESIM MG/L	POTASSIM MG/L	SODIUM MG/L	AMMONIUM AS N MG/L
# OF SAMPLES :	131	115	130	115	114	115	133
MAXIMUM :	3.200	4.300	1.140	0.910	0.520	0.580	3.900
MINIMUM :	0.000	0.000	0.000	0.000	0.000	0.000	0.030
RANGE :	3.200	4.300	1.140	0.910	0.520	0.580	3.870
ARITH. MEAN :	0.689	0.671	0.246	0.138	0.046	0.083	0.807
ARITH. STD. DEV :	0.576	0.772	0.231	0.171	0.065	0.095	0.697
GEOM. MEAN :	0.488	0.388	0.188	0.077	0.041	0.063	0.579
1ST QUARTILE :	0.285	0.150	0.080	0.025	0.015	0.027	0.330
2ND QUARTILE :	0.555	0.350	0.180	0.067	0.025	0.045	0.550
3RD QUARTILE :	0.895	0.900	0.330	0.197	0.052	0.110	1.095
VOL. WGT. MEAN :	0.508	0.427	0.185	0.087	0.031	0.063	0.574

NOTE(1): PRECIP. VALUES REPRESENT GAUGE DEPTH
***** : INSUFFICIENT DATA OR NOT APPLICABLE

ONTARIO MINISTRY OF THE ENVIRONMENT
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY
SUMMARY STATISTICS OF CONCENTRATION

STATION =WILMER AEROCHEM SITE NO.1

	EQUIVALENT PREC. DEPTH MM	CONDUCT UMHO/CM	FIELD.PH	LAB.PH	SULFATE MG/L	NITRATE MG/L	CALCIUM MG/L
# OF SAMPLES :	180.0	180	180	180	180	180	180
MAXIMUM :	32.4	94.00	5.390	7.64	16.50	3.45	4.42
MINIMUM :	0.2	2.00	3.900	3.59	0.20	0.05	0.00
ARITH. MEAN :	4.3	30.56	4.432	4.54	3.04	0.73	0.45
ARITH. STD. DEV :	5.4	22.02	0.399	0.73	2.67	0.61	0.64
GEOM. MEAN :	4.3	22.23	4.416	4.49	2.03	0.51	0.25
1ST QUARTILE :	0.4	12.25	4.095	4.11	1.00	0.29	0.10
2ND QUARTILE :	2.2	26.50	4.450	4.31	2.35	0.56	0.24
3RD QUARTILE :	6.4	42.00	4.640	4.76	4.04	1.01	0.57
VOL. WGT. MEAN :	0.4	25.86	4.426	4.51	2.47	0.55	0.28
MISSING VALUES :	2.0	60	167	58	56	57	60

	CHLORIDE MG/L	MAGNESIUM MG/L	POTASSIUM MG/L	SODIUM MG/L	AMMONIUM MG/L	ACIDITY GRAN UG/L	FREEH+ LAB UG/L
# OF SAMPLES :	180	180	180	180	180	180	180.00
MAXIMUM :	1.69	1.070	0.340	0.685	1.810	335.00	257.04
MINIMUM :	0.00	0.000	0.000	0.000	0.000	15.30	0.02
ARITH. MEAN :	0.26	0.066	0.042	0.102	0.420	87.03	57.62
ARITH. STD. DEV :	0.32	0.120	0.052	0.134	0.403	64.85	52.78
GEOM. MEAN :	0.16	0.037	0.031	0.057	0.281	67.50	57.62
1ST QUARTILE :	0.05	0.010	0.015	0.025	0.148	40.87	17.28
2ND QUARTILE :	0.14	0.035	0.027	0.045	0.300	74.30	48.98
3RD QUARTILE :	0.31	0.074	0.045	0.110	0.479	110.25	78.08
VOL. WGT. MEAN :	0.16	0.040	0.026	0.067	0.314	74.66	.
MISSING VALUES :	55	60	60	60	56	58	58.00

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PART IV

SUMMARY STATISTICS OF PRECIPITATION CONCENTRATION BY REGION

ONTARIO MINISTRY OF THE ENVIRONMENT
SUMMARY STATISTICS OF PRECIPITATION CONCENTRATIONS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : CENTRAL REGION/DAILY PRECIPITATION

PERIOD OF REPORT : DEC 31,87 TO DEC 31,88

	PRECIP. MM	CONDUCT. UMHO/CM	PH FIELD	PH LAB	FREE H+ LAB MG/L	TOTAL H+ GRAN MG/L	SULPHATE MG/L
# OF SAMPLES :	648	550	350	575	575	576	564
MAXIMUM :	72.0	95.5	7.5	7.8	0.4[illegible]6	0.5220	21.30
MINIMUM :	0.0	0.5	3.4	3.4	0.0000	0.0116	0.00
RANGE :	72.0	95.0	4.1	4.4	0.4266	0.5104	21.30
ARITH. MEAN :	5.0	25.6	4.5	4.8	0.0451	0.0716	2.57
ARITH. STD. DEV :	6.6	19.1	0.6	0.9	0.0510	0.0590	2.44
GEOM. MEAN :	2.1	18.5	4.5	4.7	0.0169	0.0547	1.71
1ST QUARTILE :	0.8	10.0	4.2	4.2	0.0106	0.0312	0.90
2ND QUARTILE :	2.4	22.0	4.3	4.5	0.0324	0.0563	1.90
3RD QUARTILE :	6.6	36.0	4.6	5.0	0.0646	0.0950	3.35
VOL. WGT. MEAN :	######	25.6	######	######	0.0473	0.0737	2.64

	NITRATE AS N MG/L	CALCIUM MG/L	CHLORIDE MG/L	MAGNESIM MG/L	POTASSIM MG/L	SODIUM MG/L	AMMONIUM AS N MG/L
# OF SAMPLES :	558	518	565	517	518	518	580
MAXIMUM :	4.200	5.500	10.860	0.700	0.885	1.310	3.700
MINIMUM :	0.000	0.000	0.000	0.000	0.000	0.000	0.000
RANGE :	4.200	5.500	10.860	0.700	0.885	1.310	3.700
ARITH. MEAN :	0.617	0.422	0.244	0.051	0.049	0.092	0.407
ARITH. STD. DEV :	0.535	0.579	0.525	0.070	0.075	0.135	0.446
GEOM. MEAN :	0.411	0.250	0.166	0.043	0.036	0.055	0.221
1ST QUARTILE :	0.205	0.080	0.070	0.010	0.015	0.025	0.101
2ND QUARTILE :	0.490	0.200	0.130	0.025	0.030	0.045	0.270
3RD QUARTILE :	0.915	0.530	0.285	0.060	0.055	0.110	0.543
VOL. WGT. MEAN :	0.520	0.292	0.156	0.038	0.032	0.058	0.391

NOTE(1): PRECIP. VALUES REPRESENT GAUGE DEPTH
: INSUFFICIENT DATA OR NOT APPLICABLE

ONTARIO MINISTRY OF THE ENVIRONMENT
SUMMARY STATISTICS OF PRECIPITATION CONCENTRATIONS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : NORTHEASTERN REGION/DAILY PRECIPITATION

PERIOD OF REPORT : APR 11,88 TO DEC 31,88

	PRECIP. MM	CONDUCT. UMHO/CM	PH FIELD	PH LAB	FREE H+ LAB MG/L	TOTAL H+ GRAN MG/L	SULPHATE MG/L
# OF SAMPLES	262	167	127	179	179	179	171
MAXIMUM	140.0	89.0	5.8	7.6	0.2818	0.3220	31.40
MINIMUM	0.0	1.0	3.6	3.6	0.0000	0.0123	0.00
RANGE	140.0	88.0	2.3	4.1	0.2818	0.3097	31.40
ARITH. MEAN	5.8	21.1	4.4	4.7	0.0436	0.0698	2.32
ARITH. STD. DEV	15.1	19.5	0.4	0.7	0.0544	0.0617	3.14
GEOM. MEAN	1.2	13.6	4.4	4.7	0.0189	0.0526	1.39
1ST QUARTILE	0.3	5.8	4.1	4.3	0.0091	0.0294	0.60
2ND QUARTILE	1.4	15.3	4.3	4.6	0.0254	0.0510	1.50
3RD QUARTILE	5.4	28.8	4.6	5.0	0.0531	0.0808	2.85
VOL. WGT. MEAN	******	16.6	******	******	0.0331	0.0579	1.69

	NITRATE AS N MG/L	CALCIUM MG/L	CHLORIDE MG/L	MAGNESIM MG/L	POTASSIM MG/L	SODIUM MG/L	AMMONIUM AS N MG/L
# OF SAMPLES	170	168	172	168	166	168	179
MAXIMUM	2.900	1.680	0.900	0.220	0.805	0.540	2.180
MINIMUM	0.000	0.000	0.000	0.000	0.000	0.000	0.000
RANGE	2.900	1.680	0.900	0.220	0.805	0.540	2.180
ARITH. MEAN	0.450	0.192	0.141	0.031	0.061	0.072	0.293
ARITH. STD. DEV	0.516	0.235	0.147	0.038	0.105	0.078	0.377
GEOM. MEAN	0.282	0.163	0.149	0.041	0.044	0.054	0.152
1ST QUARTILE	0.085	0.040	0.040	0.010	0.017	0.025	0.036
2ND QUARTILE	0.300	0.120	0.100	0.020	0.035	0.045	0.160
3RD QUARTILE	0.595	0.280	0.185	0.040	0.055	0.095	0.396
VOL. WGT. MEAN	0.323	0.127	0.076	0.021	0.029	0.041	0.230

NOTE(1): PRECIP. VALUES REPRESENT GAUGE DEPTH
***** : INSUFFICIENT DATA OR NOT APPLICABLE

ONTARIO MINISTRY OF THE ENVIRONMENT
SUMMARY STATISTICS OF PRECIPITATION CONCENTRATIONS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : NORTHWESTERN REGION/DAILY PRECIPITATION

PERIOD OF REPORT : JAN 1,88 TO DEC 30,88

	PRECIP. MM	CONDUCT. UMHO/CM	PH FIELD	PH LAB	FREE H+ LAB MG/L	TOTAL H+ GRAN MG/L	SULPHATE MG/L
# OF SAMPLES	341	258	0	254	254	254	260
MAXIMUM	140.0	95.5	******	7.4	0.0871	0.1230	8.55
MINIMUM	0.1	0.5	******	4.1	0.0000	0.0103	0.00
RANGE	139.9	95.0	******	3.3	0.0871	0.1127	8.55
ARITH. MEAN	7.5	10.9	******	5.4	0.0111	0.0311	1.31
ARITH. STD. DEV	11.5	10.6	******	0.8	0.0156	0.0190	1.40
GEOM. MEAN	2.9	7.8	******	5.4	0.0036	0.0273	0.87
1ST QUARTILE	1.1	5.0	******	4.8	0.0009	0.0196	0.45
2ND QUARTILE	4.3	8.0	******	5.3	0.0054	0.0241	0.90
3RD QUARTILE	9.3	13.3	******	6.0	0.0141	0.0351	1.63
VOL. WGT. MEAN	******	8.4	******	******	0.0092	0.0288	1.06

	NITRATE AS N MG/L	CALCIUM MG/L	CHLORIDE MG/L	MAGNESIM MG/L	POTASSIM MG/L	SODIUM MG/L	AMMONIUM AS N MG/L
# OF SAMPLES	260	253	260	253	253	252	268
MAXIMUM	2.210	3.020	3.730	0.495	0.325	1.830	4.130
MINIMUM	0.000	0.000	0.000	0.000	0.000	0.000	0.000
RANGE	2.210	3.020	3.730	0.495	0.325	1.830	4.130
ARITH. MEAN	0.332	0.279	0.115	0.043	0.046	0.084	0.340
ARITH. STD. DEV	0.316	0.409	0.253	0.065	0.055	0.198	0.417
GEOM. MEAN	0.233	0.215	0.129	0.050	0.042	0.049	0.196
1ST QUARTILE	0.145	0.060	0.040	0.010	0.015	0.015	0.090
2ND QUARTILE	0.250	0.140	0.070	0.025	0.030	0.030	0.241
3RD QUARTILE	0.415	0.300	0.130	0.045	0.055	0.065	0.423
VOL. WGT. MEAN	0.241	0.196	0.066	0.029	0.036	0.045	0.280

NOTE(1): PRECIP. VALUES REPRESENT GAUGE DEPTH
****** : INSUFFICIENT DATA OR NOT APPLICABLE

ONTARIO MINISTRY OF THE ENVIRONMENT
SUMMARY STATISTICS OF PRECIPITATION CONCENTRATIONS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : SOUTHEASTERN REGION/DAILY PRECIPITATION

PERIOD OF REPORT : JAN 4,88 TO DEC 31,88

	PRECIP. MM	CONDUCT. UMHO/CM	PH FIELD	PH LAB	FREE H+ LAB MG/L	TOTAL H+ GRAN MG/L	SULPHATE MG/L
# OF SAMPLES :	342	259	67	266	266	266	272
MAXIMUM :	113.8	94.5	7.0	7.6	0.2884	0.3800	16.50
MINIMUM :	0.2	2.0	3.6	3.5	0.0000	0.0000	0.00
RANGE :	113.6	92.5	3.4	4.1	0.2884	0.3800	16.50
ARITH. MEAN :	5.8	31.7	4.4	4.5	0.0623	0.0927	3.42
ARITH. STD. DEV :	8.8	22.0	0.6	0.7	0.0565	0.0701	2.86
GEOM. MEAN :	2.6	23.7	4.4	4.4	0.0323	0.0728	2.33
1ST QUARTILE :	0.8	15.8	4.1	4.1	0.0232	0.0432	1.40
2ND QUARTILE :	3.0	26.3	4.3	4.3	0.0495	0.0750	2.55
3RD QUARTILE :	7.4	44.8	4.6	4.6	0.0813	0.1160	4.72
VOL. WGT. MEAN :	******	24.9	******	******	0.0480	0.0744	2.62

	NITRATE AS N MG/L	CALCIUM MG/L	CHLORIDE MG/L	MAGNESIM MG/L	POTASSIM MG/L	SODIUM MG/L	AMMONIUM AS N MG/L
# OF SAMPLES :	271	261	273	261	262	262	268
MAXIMUM :	3.460	4.500	2.320	1.070	0.420	1.710	1.810
MINIMUM :	0.000	0.000	0.000	0.000	0.000	0.000	0.000
RANGE :	3.460	4.500	2.320	1.070	0.420	1.710	1.810
ARITH. MEAN :	0.774	0.487	0.277	0.074	0.047	0.103	0.455
ARITH. STD. DEV :	0.649	0.659	0.349	0.120	0.060	0.164	0.402
GEOM. MEAN :	0.542	0.280	0.197	0.054	0.038	0.063	0.312
1ST QUARTILE :	0.320	0.100	0.060	0.015	0.015	0.025	0.190
2ND QUARTILE :	0.590	0.260	0.150	0.040	0.027	0.045	0.320
3RD QUARTILE :	1.115	0.580	0.320	0.082	0.050	0.108	0.565
VOL. WGT. MEAN :	0.507	0.268	0.170	0.039	0.027	0.057	0.334

NOTE(1): PRECIP. VALUES REPRESENT GAUGE DEPTH
***** : INSUFFICIENT DATA OR NOT APPLICABLE

ONTARIO MINISTRY OF THE ENVIRONMENT
SUMMARY STATISTICS OF PRECIPITATION CONCENTRATIONS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : SOUTHWESTERN REGION/DAILY PRECIPITATION

PERIOD OF REPORT : JAN 13,88 TO DEC 31,88

	PRECIP. MM	CONDUCT. UMHO/CM	PH FIELD	PH LAB	FREE H+ LAB MG/L	TOTAL H+ GRAN MG/L	SULPHATE MG/L
# OF SAMPLES :	602	462	293	515	515	516	495
MAXIMUM :	69.0	88.5	7.4	8.1	0.4169	0.4180	18.00
MINIMUM :	0.1	1.5	3.0	3.4	0.0000	0.0000	0.00
RANGE :	68.9	87.0	4.4	4.7	0.4169	0.4180	18.00
ARITH. MEAN :	5.5	29.8	4.3	5.1	0.0434	0.0693	3.72
ARITH. STD. DEV :	7.8	19.6	0.8	1.2	0.0571	0.0626	2.95
GEOM. MEAN :	2.6	23.4	4.2	5.0	0.0076	0.0494	2.69
1ST QUARTILE :	1.0	15.0	3.8	4.2	0.0010	0.0230	1.70
2ND QUARTILE :	2.6	24.3	4.1	4.6	0.0279	0.0515	2.85
3RD QUARTILE :	6.6	40.5	4.5	6.0	0.0631	0.0925	5.10
VOL. WGT. MEAN :	******	27.5	******	******	0.0477	0.0731	3.21

	NITRATE AS N MG/L	CALCIUM MG/L	CHLORIDE MG/L	MAGNESIM MG/L	POTASSIM MG/L	SODIUM MG/L	AMMONIUM AS N MG/L
# OF SAMPLES :	495	455	496	455	453	455	510
MAXIMUM :	4.490	5.120	3.850	0.985	1.100	1.510	3.900
MINIMUM :	0.000	0.000	0.000	0.000	0.000	0.000	0.000
RANGE :	4.490	5.120	3.850	0.985	1.100	1.510	3.900
ARITH. MEAN :	0.750	0.710	0.308	0.135	0.077	0.114	0.705
ARITH. STD. DEV :	0.604	0.782	0.339	0.165	0.119	0.150	0.622
GEOM. MEAN :	0.532	0.416	0.233	0.082	0.050	0.071	0.491
1ST QUARTILE :	0.305	0.180	0.110	0.030	0.020	0.035	0.276
2ND QUARTILE :	0.590	0.460	0.220	0.080	0.040	0.060	0.493
3RD QUARTILE :	1.035	0.950	0.395	0.168	0.085	0.135	0.926
VOL. WGT. MEAN :	0.546	0.422	0.206	0.081	0.049	0.076	0.520

NOTE(1): PRECIP. VALUES REPRESENT GAUGE DEPTH
***** : INSUFFICIENT DATA OR NOT APPLICABLE

PART V

SUMMARY STATISTICS OF WET DEPOSITION BY STATION

ONTARIO MINISTRY OF THE ENVIRONMENT
SUMMARY STATISTICS OF CALCULATED DEPOSITIONS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : BALSAM LAKE/DAILY/AEROCHEM #06

PERIOD OF REPORT : JAN 3, 88 TO DEC 29,88

	PRECIP. MM	FREE H+ FIELD MG/M**2	FREE H+ LAB MG/M**2	TOTAL H+ GRAN MG/M**2	SULPHATE MG/M**2	NITRATE AS N MG/M**2	CALCIUM MG/M**2
# OF SAMPLES :	128	77	125	125	124	122	116
MAXIMUM :	72.0	5.2048	4.3292	5.7147	307.80	29.520	27.500
MINIMUM :	0.1	0.0001	0.0000	0.0012	0.00	0.000	0.012
RANGE :	71.9	5.2047	4.3292	5.7135	307.80	29.520	27.488
ARITH. MEAN :	5.9	0.4619	0.2962	0.4624	18.37	3.534	2.719
ARITH. STD. DEV :	8.8	0.8021	0.6058	0.8704	40.23	5.113	4.389
GEOM. MEAN :	2.7	0.1583	0.0334	0.1460	5.49	1.396	1.096
1ST QUARTILE :	1.1	0.0815	0.0059	0.0517	1.97	0.477	0.465
2ND QUARTILE :	3.3	0.2243	0.0789	0.1489	7.18	1.547	1.372
3RD QUARTILE :	7.2	0.4619	0.2940	0.4646	17.61	4.111	2.644
VOL. WGT. MEAN :	*******	0.3475	0.2895	0.4520	17.82	3.375	2.497

	CHLORIDE MG/M**2	MAGNESIM MG/M**2	POTASSIM MG/M**2	SODIUM MG/M**2	AMMONIUM AS N MG/M**2
# OF SAMPLES :	124	116	116	115	122
MAXIMUM :	15.120	4.902	1.800	7.200	35.112
MINIMUM :	0.000	0.000	0.000	0.009	0.000
RANGE :	15.120	4.902	1.800	7.191	35.112
ARITH. MEAN :	0.998	0.333	0.219	0.402	2.539
ARITH. STD. DEV :	1.852	0.649	0.333	0.854	4.838
GEOM. MEAN :	0.411	0.133	0.108	0.153	0.711
1ST QUARTILE :	0.155	0.039	0.048	0.051	0.267
2ND QUARTILE :	0.432	0.126	0.118	0.150	0.920
3RD QUARTILE :	0.865	0.309	0.262	0.332	2.526
VOL. WGT. MEAN :	0.968	0.305	0.201	0.368	2.431

***** : INSUFFICIENT DATA
NOTE(1): PRECIP. VALUES REPRESENT GAUGE DEPTH
NOTE(2): THE VOLUME WEIGHTED MEAN DEPOSITION REPRESENTS THE PRODUCT OF VOLUME WEIGHTED MEAN CONCENTRATION (SEE PART III) AND ANNUAL PRECIPITATION GAUGE DEPTH, DIVIDED BY THE NUMBER OF SAMPLES.

ONTARIO MINISTRY OF THE ENVIRONMENT
SUMMARY STATISTICS OF CALCULATED DEPOSITIONS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : CHARLESTON LAKE/DAILY/AEROCHEM #11

PERIOD OF REPORT : JAN 4, 88 TO DEC 29,88

	PRECIP. MM	FREE H+ FIELD MG/M**2	FREE H+ LAB MG/M**2	TOTAL H+ GRAN MG/M**2	SULPHATE MG/M**2	NITRATE AS N MG/M**2	CALCIUM MG/M**2
# OF SAMPLES	104	33	93	93	95	95	91
MAXIMUM	38.6	1.8132	2.0620	2.8139	121.42	12.032	9.504
MINIMUM	0.2	0.0328	0.0000	0.0033	0.00	0.024	0.000
RANGE	38.4	1.7805	2.0620	2.8107	121.42	12.008	9.504
ARITH. MEAN	7.2	0.4390	0.3512	0.5440	18.75	3.228	1.593
ARITH. STD. DEV	8.2	0.3906	0.4019	0.5473	22.90	2.695	2.085
GEOM. MEAN	3.7	0.2975	0.1609	0.3136	9.29	2.117	0.879
1ST QUARTILE	1.6	0.1727	0.0946	0.1820	4.41	1.354	0.333
2ND QUARTILE	4.4	0.3742	0.2265	0.3633	11.10	2.511	0.788
3RD QUARTILE	9.2	0.5361	0.4641	0.6820	22.45	4.218	1.776
VOL. WGT. MEAN	*******	0.3838	0.3264	0.5056	17.76	3.057	1.456

	CHLORIDE MG/M**2	MAGNESIM MG/M**2	POTASSIM MG/M**2	SODIUM MG/M**2	AMMONIUM AS N MG/M**2
# OF SAMPLES	95	91	91	91	94
MAXIMUM	34.750	1.575	1.122	1.351	14.213
MINIMUM	0.000	0.000	0.000	0.000	0.008
RANGE	34.750	1.575	1.122	1.351	14.205
ARITH. MEAN	1.340	0.269	0.183	0.320	2.352
ARITH. STD. DEV	3.718	0.350	0.216	0.362	2.715
GEOM. MEAN	0.673	0.186	0.119	0.216	1.150
1ST QUARTILE	0.222	0.044	0.038	0.087	0.725
2ND QUARTILE	0.528	0.145	0.098	0.178	1.346
3RD QUARTILE	1.300	0.321	0.206	0.333	2.895
VOL. WGT. MEAN	1.269	0.246	0.168	0.293	2.209

***** : INSUFFICIENT DATA
NOTE(1): PRECIP. VALUES REPRESENT GAUGE DEPTH
NOTE(2): THE VOLUME WEIGHTED MEAN DEPOSITION REPRESENTS THE PRODUCT OF VOLUME WEIGHTED MEAN CONCENTRATION (SEE PART III) AND ANNUAL PRECIPITATION GAUGE DEPTH, DIVIDED BY THE NUMBER OF SAMPLES.

ONTARIO MINISTRY OF THE ENVIRONMENT
SUMMARY STATISTICS OF CALCULATED DEPOSITIONS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : DAWSON/DAILY/AEROCHEM./6131

PERIOD OF REPORT : DEC 31, 87 TO DEC 30,88

	PRECIP. MM	FREE H+ FIELD MG/M**2	FREE H+ LAB MG/M**2	TOTAL H+ GRAN MG/M**2	SULPHATE MG/M**2	NITRATE AS N MG/M**2	CALCIUM MG/M**2
# OF SAMPLES :	104	0	77	77	78	78	79
MAXIMUM :	46.6	********	0.5074	1.1642	126.84	19.488	30.240
MINIMUM :	0.1	********	0.0000	0.0043	0.00	0.000	0.000
RANGE :	46.5	********	0.5073	1.1600	126.84	19.488	30.240
ARITH. MEAN :	7.4	********	0.1026	0.2873	12.32	2.525	2.529
ARITH. STD. DEV :	8.0	********	0.1297	0.2595	17.44	2.801	4.573
GEOM. MEAN :	3.6	********	0.0354	0.1846	5.82	1.400	1.176
1ST QUARTILE :	2.0	********	0.0161	0.1025	3.06	0.634	0.210
2ND QUARTILE :	5.2	********	0.0415	0.2027	6.76	1.949	1.020
3RD QUARTILE :	9.6	********	0.1380	0.3510	15.08	3.282	2.460
VOL. WGT. MEAN :	*******	********	0.0859	0.2404	10.17	2.086	2.093

	CHLORIDE MG/M**2	MAGNESIM MG/M**2	POTASSIM MG/M**2	SODIUM MG/M**2	AMMONIUM AS N MG/M**2
# OF SAMPLES :	78	79	79	78	79
MAXIMUM :	11.936	3.192	5.292	6.384	22.176
MINIMUM :	0.000	0.000	0.000	0.000	0.000
RANGE :	11.936	3.192	5.292	6.384	22.176
ARITH. MEAN :	0.834	0.360	0.415	0.636	2.783
ARITH. STD. DEV :	1.557	0.590	0.723	1.081	3.700
GEOM. MEAN :	0.636	0.237	0.228	0.317	1.275
1ST QUARTILE :	0.106	0.031	0.051	0.091	0.477
2ND QUARTILE :	0.540	0.125	0.184	0.299	1.611
3RD QUARTILE :	0.845	0.351	0.416	0.588	3.328
VOL. WGT. MEAN :	0.689	0.298	0.344	0.522	2.305

***** : INSUFFICIENT DATA
NOTE(1): PRECIP. VALUES REPRESENT GAUGE DEPTH
NOTE(2): THE VOLUME WEIGHTED MEAN DEPOSITION REPRESENTS THE PRODUCT OF VOLUME WEIGHTED MEAN CONCENTRATION (SEE PART III) AND ANNUAL PRECIPITATION GAUGE DEPTH, DIVIDED BY THE NUMBER OF SAMPLES.

ONTARIO MINISTRY OF THE ENVIRONMENT
SUMMARY STATISTICS OF CALCULATED DEPOSITIONS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : DORSET/DAILY/AEROCHEM 808

PERIOD OF REPORT : DEC 31, 87 TO DEC 31,88

	PRECIP. MM	FREE H+ FIELD MG/M**2	FREE H+ LAB MG/M**2	TOTAL H+ GRAN MG/M**2	SULPHATE MG/M**2	NITRATE AS N MG/M**2	CALCIUM MG/M**2
# OF SAMPLES :	218	119	193	194	189	189	170
MAXIMUM :	32.4	3.3121	4.0748	3.7184	136.95	15.180	15.862
MINIMUM :	0.0	0.0011	0.0001	0.0022	0.00	0.000	0.000
RANGE :	32.4	3.3110	4.0747	3.7162	136.95	15.180	15.862
ARITH. MEAN :	4.7	0.4057	0.2534	0.3798	12.50	2.734	1.246
ARITH. STD. DEV :	5.9	0.4235	0.4088	0.4933	17.83	3.200	2.130
GEOM. MEAN :	1.8	0.2438	0.0649	0.1506	4.13	1.119	0.610
1ST QUARTILE :	0.6	0.1324	0.0182	0.0493	1.50	0.309	0.194
2ND QUARTILE :	2.2	0.2891	0.1091	0.1909	5.66	1.660	0.524
3RD QUARTILE :	6.6	0.5704	0.3475	0.5215	16.95	3.948	1.434
VOL. WGT. MEAN :	*******	0.2838	0.2264	0.3404	10.93	2.391	0.988

	CHLORIDE MG/M**2	MAGNESIM MG/M**2	POTASSIM MG/M**2	SODIUM MG/M**2	AMMONIUM AS N MG/M**2
# OF SAMPLES :	188	170	171	171	195
MAXIMUM :	10.092	2.484	1.530	6.072	15.318
MINIMUM :	0.000	0.000	0.000	0.000	0.000
RANGE :	10.092	2.484	1.530	6.072	15.318
ARITH. MEAN :	0.926	0.183	0.169	0.414	1.720
ARITH. STD. DEV :	1.435	0.311	0.226	0.740	2.576
GEOM. MEAN :	0.433	0.118	0.107	0.201	0.466
1ST QUARTILE :	0.090	0.024	0.031	0.057	0.072
2ND QUARTILE :	0.390	0.075	0.079	0.188	0.717
3RD QUARTILE :	1.187	0.203	0.226	0.445	2.204
VOL. WGT. MEAN :	0.806	0.145	0.134	0.330	1.545

***** : INSUFFICIENT DATA
NOTE(1): PRECIP. VALUES REPRESENT GAUGE DEPTH
NOTE(2): THE VOLUME WEIGHTED MEAN DEPOSITION REPRESENTS THE PRODUCT OF VOLUME WEIGHTED MEAN CONCENTRATION (SEE PART III) AND ANNUAL PRECIPITATION GAUGE DEPTH, DIVIDED BY THE NUMBER OF SAMPLES.

ONTARIO MINISTRY OF THE ENVIRONMENT
SUMMARY STATISTICS OF CALCULATED DEPOSITIONS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : EGBERT

PERIOD OF REPORT : NOV 29, 88 TO DEC 31,88

	PRECIP. MM	FREE H+ FIELD MG/M**2	FREE H+ LAB MG/M**2	TOTAL H+ GRAN MG/M**2	SULPHATE MG/M**2	NITRATE AS N MG/M**2	CALCIUM MG/M**2
# OF SAMPLES :	19	0	13	12	9	9	9
MAXIMUM :	7.8	********	0.3327	0.4781	15.29	2.262	1.580
MINIMUM :	0.2	********	0.0006	0.0051	0.05	0.098	0.080
RANGE :	7.6	********	0.3322	0.4731	15.24	2.164	1.500
ARITH. MEAN :	1.6	********	0.0518	0.0975	3.06	0.757	0.752
ARITH. STD. DEV :	2.3	********	0.0925	0.1379	4.84	0.825	0.552
GEOM. MEAN :	0.9	********	0.0152	0.0477	1.01	0.471	0.529
1ST QUARTILE :	0.4	********	0.0046	0.0240	0.29	0.247	0.266
2ND QUARTILE :	0.6	********	0.0155	0.0431	0.79	0.386	0.582
3RD QUARTILE :	1.1	********	0.0376	0.1036	2.81	0.535	0.992
VOL. WGT. MEAN :	*******	********	0.0387	0.0697	1.76	0.435	0.428

	CHLORIDE MG/M**2	MAGNESIM MG/M**2	POTASSIM MG/M**2	SODIUM MG/M**2	AMMONIUM AS N MG/M**2
# OF SAMPLES :	9	9	9	9	8
MAXIMUM :	2.184	0.330	0.160	0.935	0.998
MINIMUM :	0.000	0.010	0.005	0.017	0.066
RANGE :	2.184	0.320	0.154	0.918	0.932
ARITH. MEAN :	0.789	0.124	0.054	0.488	0.261
ARITH. STD. DEV :	0.813	0.122	0.059	0.314	0.307
GEOM. MEAN :	0.475	0.074	0.028	0.314	0.176
1ST QUARTILE :	0.053	0.031	0.009	0.214	0.092
2ND QUARTILE :	0.414	0.075	0.015	0.428	0.167
3RD QUARTILE :	1.165	0.121	0.080	0.673	0.253
VOL. WGT. MEAN :	0.454	0.070	0.031	0.277	0.134

***** : INSUFFICIENT DATA
NOTE(1): PRECIP. VALUES REPRESENT GAUGE DEPTH
NOTE(2): THE VOLUME WEIGHTED MEAN DEPOSITION REPRESENTS THE PRODUCT OF VOLUME WEIGHTED MEAN CONCENTRATION (SEE PART III) AND ANNUAL PRECIPITATION GAUGE DEPTH, DIVIDED BY THE NUMBER OF SAMPLES.

ONTARIO MINISTRY OF THE ENVIRONMENT
SUMMARY STATISTICS OF CALCULATED DEPOSITIONS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : FERNBERG/DAILY/AEROCHEM #16

PERIOD OF REPORT : JAN 1, 88 TO DEC 31,88

	PRECIP. MM	FREE H+ FIELD MG/M**2	FREE H+ LAB MG/M**2	TOTAL H+ GRAN MG/M**2	SULPHATE MG/M**2	NITRATE AS N MG/M**2	CALCIUM MG/M**2
# OF SAMPLES :	153	0	108	108	114	114	106
MAXIMUM :	69.2	********	1.2866	2.2131	83.65	14.532	9.688
MINIMUM :	0.1	********	0.0000	0.0010	0.00	0.000	0.000
RANGE :	69.1	********	1.2865	2.2121	83.65	14.532	9.688
ARITH. MEAN :	5.8	********	0.0597	0.2035	6.91	1.697	1.204
ARITH. STD. DEV :	9.9	********	0.1430	0.3029	11.24	2.146	1.868
GEOM. MEAN :	1.7	********	0.0079	0.0834	2.31	0.677	0.624
1ST QUARTILE :	0.5	********	0.0014	0.0424	0.66	0.217	0.066
2ND QUARTILE :	2.3	********	0.0118	0.0904	3.18	0.926	0.515
3RD QUARTILE :	6.4	********	0.0682	0.2708	9.12	2.365	1.496
VOL. WGT. MEAN :	*******	********	0.0442	0.1507	5.37	1.318	0.876

	CHLORIDE MG/M**2	MAGNESIM MG/M**2	POTASSIM MG/M**2	SODIUM MG/M**2	AMMONIUM AS N MG/M**2
# OF SAMPLES :	114	106	106	106	120
MAXIMUM :	4.160	2.475	2.076	1.780	29.479
MINIMUM :	0.000	0.000	0.000	0.000	0.000
RANGE :	4.160	2.475	2.076	1.780	29.479
ARITH. MEAN :	0.402	0.202	0.250	0.248	2.019
ARITH. STD. DEV :	0.591	0.368	0.386	0.377	3.574
GEOM. MEAN :	0.285	0.149	0.125	0.140	0.468
1ST QUARTILE :	0.053	0.013	0.031	0.036	0.085
2ND QUARTILE :	0.188	0.105	0.121	0.122	0.790
3RD QUARTILE :	0.497	0.208	0.258	0.260	2.590
VOL. WGT. MEAN :	0.312	0.147	0.182	0.180	1.635

***** : INSUFFICIENT DATA
NOTE(1): PRECIP. VALUES REPRESENT GAUGE DEPTH
NOTE(2): THE VOLUME WEIGHTED MEAN DEPOSITION REPRESENTS THE PRODUCT OF VOLUME WEIGHTED MEAN CONCENTRATION (SEE PART III) AND ANNUAL PRECIPITATION GAUGE DEPTH, DIVIDED BY THE NUMBER OF SAMPLES.

ONTARIO MINISTRY OF THE ENVIRONMENT
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY
SUMMARY STATISTICS OF DEPOSITION

STATION=GOWGANDA AEROCHEM SITE NO.1

	EQUIVALENT PREC. DEPTH MM	SULFATE MG/M**2	NITRATE MG/M**2	CALCIUM MG/M**2	CHLORIDE MG/M**2	MAGNESIUM MG/M**2
# OF SAMPLES	167.0	167	167	167	167	167
MAXIMUM	37.0	89.11	8.51	9.58	2.13	1.620
MINIMUM	0.0	0.02	0.00	0.00	0.00	0.000
ARITH. MEAN	4.2	9.02	1.50	0.72	0.34	0.112
ARITH. STD. DEV	6.2	13.05	1.85	1.52	0.41	0.254
GEOM. MEAN	1.1	3.23	0.60	0.30	0.22	0.048
1ST QUARTILE	0.2	0.90	0.08	0.06	0.04	0.005
2ND QUARTILE	1.3	5.09	0.69	0.20	0.21	0.026
3RD QUARTILE	5.8	12.72	2.21	0.68	0.46	0.107
VOL. WGT. MEAN	.	5.13	0.85	0.41	0.19	0.063
MISSING VALUES	32.0	79	79	83	78	83

	POTASSIUM MG/M**2	SODIUM MG/M**2	AMMONIUM MG/M**2	ACIDITY GRAN UG/M**2	FREE H+ LAB UG/M**2
# OF SAMPLES	167	167	167	167	167.00
MAXIMUM	1.144	1.080	9.576	1758.26	1083.6
MINIMUM	0.000	0.000	0.000	2.86	0.01
ARITH. MEAN	0.136	0.195	0.974	308.52	171.56
ARITH. STD. DEV	0.200	0.232	1.561	342.00	217.53
GEOM. MEAN	0.079	0.125	0.271	131.35	45.71
1ST QUARTILE	0.024	0.052	0.066	36.48	7.50
2ND QUARTILE	0.076	0.106	0.205	193.44	74.84
3RD QUARTILE	0.162	0.235	1.346	456.00	245.21
VOL. WGT. MEAN	0.077	0.110	0.644	175.31	67.01
MISSING VALUES	84	83	75	80	80.00

ONTARIO MINISTRY OF THE ENVIRONMENT
SUMMARY STATISTICS OF CALCULATED DEPOSITIONS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : HIGH FALLS

PERIOD OF REPORT : APR 14, 88 TO DEC 31,88

	PRECIP. MM	FREE H+ FIELD MG/M**2	FREE H+ LAB MG/M**2	TOTAL H+ GRAN MG/M**2	SULPHATE MG/M**2	NITRATE AS N MG/M**2	CALCIUM MG/M**2
# OF SAMPLES :	114	60	91	91	82	81	84
MAXIMUM :	38.2	3.1050	2.7673	3.8200	138.60	27.504	8.736
MINIMUM :	0.0	0.0034	0.0000	0.0028	0.00	0.000	0.000
RANGE :	38.2	3.1016	2.7673	3.8172	138.60	27.504	8.736
ARITH. MEAN :	5.0	0.5137	0.2983	0.4664	15.35	3.298	1.024
ARITH. STD. DEV :	7.8	0.6287	0.4998	0.7132	23.75	4.626	1.623
GEOM. MEAN :	1.7	0.2390	0.0532	0.1454	5.17	1.124	0.428
1ST QUARTILE :	0.5	0.1025	0.0139	0.0459	1.84	0.335	0.062
2ND QUARTILE :	2.0	0.2340	0.0879	0.1885	6.37	1.629	0.400
3RD QUARTILE :	5.5	0.7429	0.4275	0.5433	21.03	4.486	1.220
VOL. WGT. MEAN :	*******	0.3036	0.2437	0.3810	11.47	2.437	0.781

	CHLORIDE MG/M**2	MAGNESIM MG/M**2	POTASSIM MG/M**2	SODIUM MG/M**2	AMMONIUM AS N MG/M**2
# OF SAMPLES :	82	84	83	84	86
MAXIMUM :	8.786	1.144	3.135	4.400	16.655
MINIMUM :	0.000	0.000	0.000	0.000	0.000
RANGE :	8.786	1.144	3.135	4.400	16.655
ARITH. MEAN :	0.826	0.177	0.272	0.344	2.129
ARITH. STD. DEV :	1.463	0.259	0.403	0.638	3.061
GEOM. MEAN :	0.429	0.090	0.139	0.147	0.503
1ST QUARTILE :	0.072	0.010	0.039	0.054	0.052
2ND QUARTILE :	0.420	0.063	0.155	0.160	0.909
3RD QUARTILE :	0.907	0.227	0.360	0.359	2.805
VOL. WGT. MEAN :	0.617	0.135	0.206	0.262	1.699

***** : INSUFFICIENT DATA
NOTE(1): PRECIP. VALUES REPRESENT GAUGE DEPTH
NOTE(2): THE VOLUME WEIGHTED MEAN DEPOSITION REPRESENTS THE PRODUCT OF VOLUME WEIGHTED MEAN CONCENTRATION (SEE PART III) AND ANNUAL PRECIPITATION GAUGE DEPTH, DIVIDED BY THE NUMBER OF SAMPLES.

ONTARIO MINISTRY OF THE ENVIRONMENT
SUMMARY STATISTICS OF CALCULATED DEPOSITIONS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : LONGWOODS/DAILY/AEROCHEM 802

PERIOD OF REPORT : JAN 13, 88 TO DEC 28,88

	PRECIP. MM	FREE H+ FIELD MG/M**2	FREE H+ LAB MG/M**2	TOTAL H+ GRAN MG/M**2	SULPHATE MG/M**2	NITRATE AS N MG/M**2	CALCIUM MG/M**2
# OF SAMPLES :	120	70	107	107	104	104	93
MAXIMUM :	69.0	20.3634	7.2252	9.1080	334.65	28.980	28.340
MINIMUM :	0.1	0.0002	0.0000	0.0025	0.16	0.000	0.000
RANGE :	68.9	20.3632	7.2252	9.1055	334.48	28.980	28.340
ARITH. MEAN :	7.4	1.6102	0.3886	0.5878	25.86	4.359	3.732
ARITH. STD. DEV :	10.7	3.0464	0.8709	1.1179	42.18	4.889	4.271
GEOM. MEAN :	3.7	0.3388	0.0294	0.1964	11.50	2.373	2.345
1ST QUARTILE :	1.6	0.1122	0.0032	0.0596	5.64	1.127	1.316
2ND QUARTILE :	3.7	0.6504	0.1008	0.2262	12.70	2.801	2.086
3RD QUARTILE :	9.1	1.3553	0.3712	0.6463	31.22	5.910	4.626
VOL. MGT. MEAN :	*******	1.0760	0.3813	0.5768	25.30	4.259	3.249

	CHLORIDE MG/M**2	MAGNESIM MG/M**2	POTASSIM MG/M**2	SODIUM MG/M**2	AMMONIUM AS N MG/M**2
# OF SAMPLES :	106	93	94	94	107
MAXIMUM :	12.328	4.290	4.992	6.946	24.600
MINIMUM :	0.000	0.000	0.033	0.000	0.032
RANGE :	12.328	4.290	4.959	6.946	24.568
ARITH. MEAN :	1.750	0.688	0.654	0.777	3.794
ARITH. STD. DEV :	1.908	0.807	0.782	1.032	4.808
GEOM. MEAN :	1.107	0.433	0.406	0.450	1.904
1ST QUARTILE :	0.450	0.219	0.210	0.177	0.907
2ND QUARTILE :	1.254	0.368	0.384	0.431	1.864
3RD QUARTILE :	2.296	0.870	0.745	0.949	4.604
VOL. MGT. MEAN :	1.738	0.599	0.573	0.681	3.722

***** : INSUFFICIENT DATA
NOTE(1): PRECIP. VALUES REPRESENT GAUGE DEPTH
NOTE(2): THE VOLUME WEIGHTED MEAN DEPOSITION REPRESENTS THE PRODUCT OF VOLUME WEIGHTED MEAN CONCENTRATION (SEE PART III) AND ANNUAL PRECIPITATION GAUGE DEPTH, DIVIDED BY THE NUMBER OF SAMPLES.

ONTARIO MINISTRY OF THE ENVIRONMENT
SUMMARY STATISTICS OF CALCULATED DEPOSITIONS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : MELBOURNE/DAILY/AEROCHEM #01

PERIOD OF REPORT : JAN 3, 88 TO DEC 30,88

	PRECIP. MM	FREE H+ FIELD MG/M**2	FREE H+ LAB MG/M**2	TOTAL H+ GRAN MG/M**2	SULPHATE MG/M**2	NITRATE AS N MG/M**2	CALCIUM MG/M**2
# OF SAMPLES :	129	69	112	112	109	109	100
MAXIMUM :	40.2	13.1962	3.0231	3.4850	180.18	32.487	33.306
MINIMUM :	0.1	0.0003	0.0000	0.0000	0.00	0.000	0.000
RANGE :	40.1	13.1959	3.0231	3.4850	180.18	32.487	33.306
ARITH. MEAN :	5.1	1.1772	0.3296	0.4842	20.94	3.640	2.817
ARITH. STD. DEV :	6.9	1.9531	0.4923	0.6556	27.40	4.381	4.524
GEOM. MEAN :	2.3	0.3064	0.0409	0.1997	11.37	2.214	1.498
1ST QUARTILE :	1.0	0.1464	0.0123	0.0661	5.80	1.082	0.836
2ND QUARTILE :	2.2	0.4211	0.1219	0.2335	9.92	2.360	1.512
3RD QUARTILE :	6.8	1.2453	0.4897	0.6976	27.82	4.396	2.778
VOL. WGT. MEAN :	*******	0.7255	0.2884	0.4237	17.87	3.107	2.247

	CHLORIDE MG/M**2	MAGNESIM MG/M**2	POTASSIM MG/M**2	SODIUM MG/M**2	AMMONIUM AS N MG/M**2
# OF SAMPLES :	109	100	99	99	111
MAXIMUM :	7.371	4.617	3.060	2.970	30.030
MINIMUM :	0.000	0.000	0.000	0.022	0.000
RANGE :	7.371	4.617	3.060	2.948	30.030
ARITH. MEAN :	1.224	0.489	0.343	0.479	3.099
ARITH. STD. DEV :	1.170	0.756	0.428	0.520	4.480
GEOM. MEAN :	0.864	0.289	0.224	0.286	1.649
1ST QUARTILE :	0.465	0.120	0.120	0.139	0.745
2ND QUARTILE :	0.803	0.258	0.208	0.235	1.626
3RD QUARTILE :	1.616	0.504	0.339	0.651	3.599
VOL. WGT. MEAN :	1.045	0.390	0.272	0.379	2.701

***** : INSUFFICIENT DATA
NOTE(1): PRECIP. VALUES REPRESENT GAUGE DEPTH
NOTE(2): THE VOLUME WEIGHTED MEAN DEPOSITION REPRESENTS THE PRODUCT OF VOLUME WEIGHTED MEAN CONCENTRATION (SEE PART III) AND ANNUAL PRECIPITATION GAUGE DEPTH, DIVIDED BY THE NUMBER OF SAMPLES.

ONTARIO MINISTRY OF THE ENVIRONMENT
SUMMARY STATISTICS OF CALCULATED DEPOSITIONS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : NITHGROVE/DAILY/AEROCHEM #07

PERIOD OF REPORT : DEC 31, 87 TO DEC 31,88

	PRECIP. MM	FREE H+ FIELD MG/M**2	FREE H+ LAB MG/M**2	TOTAL H+ GRAN MG/M**2	SULPHATE MG/M**2	NITRATE AS N MG/M**2	CALCIUM MG/M**2
# OF SAMPLES :	135	83	120	120	115	11[illegible]	108
MAXIMUM :	30.4	2.1683	2.2189	2.7580	134.40	14.896	12.160
MINIMUM :	0.0	0.0001	0.0000	0.0030	0.05	0.018	0.000
RANGE :	30.4	2.1683	2.2188	2.7550	134.35	14.878	12.160
ARITH. MEAN :	5.1	0.3740	0.2504	0.4029	14.54	2.896	1.292
ARITH. STD. DEV :	6.0	0.4141	0.3738	0.5202	20.76	3.246	2.040
GEOM. MEAN :	2.3	0.1439	0.0480	0.1538	5.28	1.260	0.560
1ST QUARTILE :	0.9	0.0697	0.0137	0.0541	1.80	0.427	0.164
2ND QUARTILE :	2.8	0.2320	0.0897	0.1815	6.45	1.596	0.610
3RD QUARTILE :	7.0	0.5339	0.3048	0.5353	18.37	4.178	1.324
VOL. WGT. MEAN :	*******	0.2495	0.2261	0.3639	12.60	2.468	1.063

	CHLORIDE MG/M**2	MAGNESIM MG/M**2	POTASSIM MG/M**2	SODIUM MG/M**2	AMMONIUM AS N MG/M**2
# OF SAMPLES :	116	107	108	108	123
MAXIMUM :	8.968	1.368	1.633	5.092	17.328
MINIMUM :	0.000	0.000	0.004	0.006	0.002
RANGE :	8.968	1.368	1.629	5.086	17.326
ARITH. MEAN :	0.862	0.180	0.246	0.310	2.301
ARITH. STD. DEV :	1.293	0.290	0.283	0.547	2.940
GEOM. MEAN :	0.482	0.119	0.139	0.166	0.742
1ST QUARTILE :	0.157	0.011	0.072	0.076	0.232
2ND QUARTILE :	0.430	0.071	0.174	0.189	1.257
3RD QUARTILE :	1.163	0.170	0.298	0.353	3.302
VOL. WGT. MEAN :	0.753	0.147	0.202	0.255	2.121

***** : INSUFFICIENT DATA
NOTE(1): PRECIP. VALUES REPRESENT GAUGE DEPTH
NOTE(2): THE VOLUME WEIGHTED MEAN DEPOSITION REPRESENTS THE PRODUCT OF VOLUME WEIGHTED MEAN CONCENTRATION (SEE PART III) AND ANNUAL PRECIPITATION GAUGE DEPTH, DIVIDED BY THE NUMBER OF SAMPLES.

ONTARIO MINISTRY OF THE ENVIRONMENT
SUMMARY STATISTICS OF CALCULATED DEPOSITIONS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : NORTH EASTHOPE/DAILY/AEROCHEM #03

PERIOD OF REPORT : DEC 31, 87 TO DEC 30,88

	PRECIP. MM	FREE H+ FIELD MG/M**2	FREE H+ LAB MG/M**2	TOTAL H+ GRAN MG/M**2	SULPHATE MG/M**2	NITRATE AS N MG/M**2	CALCIUM MG/M**2
# OF SAMPLES :	173	81	148	150	142	142	138
MAXIMUM :	38.4	6.0451	3.0228	3.9804	145.52	25.200	25.080
MINIMUM :	0.1	0.0033	0.0000	0.0054	0.10	0.010	0.000
RANGE :	38.3	6.0418	3.0228	3.9749	145.42	25.190	25.080
ARITH. MEAN :	5.2	1.0105	0.2511	0.3953	17.80	3.139	2.464
ARITH. STD. DEV :	6.9	1.4084	0.4576	0.6095	23.68	3.977	3.492
GEOM. MEAN :	2.5	0.3708	0.0179	0.1363	7.68	1.496	1.256
1ST QUARTILE :	0.9	0.1605	0.0007	0.0364	3.06	0.658	0.608
2ND QUARTILE :	2.3	0.4171	0.0500	0.1577	10.53	1.948	1.232
3RD QUARTILE :	5.8	1.0653	0.2970	0.4806	23.19	4.100	3.006
VOL. WGT. MEAN :	*******	0.5780	0.2191	0.3482	15.02	2.648	2.028

	CHLORIDE MG/M**2	MAGNESIM MG/M**2	POTASSIM MG/M**2	SODIUM MG/M**2	AMMONIUM AS N MG/M**2
# OF SAMPLES :	142	138	137	138	151
MAXIMUM :	15.408	4.890	2.590	6.300	17.980
MINIMUM :	0.000	0.000	0.000	0.018	0.000
RANGE :	15.408	4.890	2.590	6.282	17.980
ARITH. MEAN :	1.206	0.500	0.228	0.455	2.879
ARITH. STD. DEV :	2.122	0.762	0.329	0.811	3.581
GEOM. MEAN :	0.610	0.256	0.124	0.196	1.360
1ST QUARTILE :	0.209	0.099	0.046	0.084	0.540
2ND QUARTILE :	0.545	0.269	0.112	0.175	1.712
3RD QUARTILE :	1.189	0.558	0.255	0.384	3.760
VOL. WGT. MEAN :	1.017	0.412	0.167	0.374	2.550

***** : INSUFFICIENT DATA
NOTE(1): PRECIP. VALUES REPRESENT GAUGE DEPTH
NOTE(2): THE VOLUME WEIGHTED MEAN DEPOSITION REPRESENTS THE PRODUCT OF VOLUME WEIGHTED MEAN CONCENTRATION (SEE PART III) AND ANNUAL PRECIPITATION GAUGE DEPTH, DIVIDED BY THE NUMBER OF SAMPLES.

ONTARIO MINISTRY OF THE ENVIRONMENT
SUMMARY STATISTICS OF CALCULATED DEPOSITIONS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : PENN. STATE

PERIOD OF REPORT : MAY 16, 88 TO DEC 28,88

	PRECIP. MM	FREE H+ FIELD MG/M**2	FREE H+ LAB MG/M**2	TOTAL H+ GRAN MG/M**2	SULPHATE MG/M**2	NITRATE AS N MG/M**2	CALCIUM MG/M**2
# OF SAMPLES :	50	0	40	40	36	36	37
MAXIMUM :	30.4	********	2.9000	3.5090	140.65	11.552	5.984
MINIMUM :	0.1	********	0.0012	0.0068	0.87	0.102	0.000
RANGE :	30.3	********	2.8988	3.5022	139.78	11.450	5.984
ARITH. MEAN :	7.1	********	0.4308	0.6098	20.71	2.938	0.830
ARITH. STD. DEV :	8.9	********	0.5739	0.7157	26.89	2.953	1.105
GEOM. MEAN :	2.6	********	0.1740	0.2876	10.20	1.696	0.553
1ST QUARTILE :	0.6	********	0.0566	0.0971	4.20	0.785	0.162
2ND QUARTILE :	3.0	********	0.2765	0.4028	12.63	1.999	0.430
3RD QUARTILE :	8.8	********	0.4517	0.7558	24.14	3.756	1.037
VOL. WGT. MEAN :	*******	********	0.3669	0.5195	16.97	2.407	0.656

	CHLORIDE MG/M**2	MAGNESIM MG/M**2	POTASSIM MG/M**2	SODIUM MG/M**2	AMMONIUM AS N MG/M**2
# OF SAMPLES :	36	37	37	37	40
MAXIMUM :	3.190	0.986	0.986	1.938	9.792
MINIMUM :	0.000	0.000	0.000	0.012	0.032
RANGE :	3.190	0.986	0.986	1.926	9.760
ARITH. MEAN :	0.945	0.143	0.148	0.337	1.590
ARITH. STD. DEV :	0.835	0.188	0.212	0.408	2.242
GEOM. MEAN :	0.662	0.151	0.117	0.175	0.643
1ST QUARTILE :	0.272	0.028	0.030	0.060	0.180
2ND QUARTILE :	0.635	0.078	0.082	0.170	0.983
3RD QUARTILE :	1.491	0.173	0.150	0.428	1.972
VOL. WGT. MEAN :	0.774	0.113	0.117	0.266	1.346

***** : INSUFFICIENT DATA
NOTE(1): PRECIP. VALUES REPRESENT GAUGE DEPTH
NOTE(2): THE VOLUME WEIGHTED MEAN DEPOSITION REPRESENTS THE PRODUCT OF VOLUME WEIGHTED MEAN CONCENTRATION (SEE PART III) AND ANNUAL PRECIPITATION GAUGE DEPTH, DIVIDED BY THE NUMBER OF SAMPLES.

ONTARIO MINISTRY OF THE ENVIRONMENT
SUMMARY STATISTICS OF CALCULATED DEPOSITIONS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : QUETICO CENTRE/DAILY/AEROCHEM #14

PERIOD OF REPORT : JAN 7, 88 TO DEC 28,88

	PRECIP. MM	FREE H+ FIELD MG/M**2	FREE H+ LAB MG/M**2	TOTAL H+ GRAN MG/M**2	SULPHATE MG/M**2	NITRATE AS N MG/M**2	CALCIUM MG/M**2
# OF SAMPLES :	84	0	69	69	68	68	68
MAXIMUM :	140.0	********	0.6933	2.8700	49.82	12.376	16.560
MINIMUM :	0.1	********	0.0005	0.0272	2.10	0.152	0.000
RANGE :	139.9	********	0.6929	2.8428	47.72	12.224	16.560
ARITH. MEAN :	10.7	********	0.1116	0.3628	11.91	2.825	2.161
ARITH. STD. DEV :	16.5	********	0.1327	0.3899	10.70	2.164	2.760
GEOM. MEAN :	5.6	********	0.0390	0.2558	8.71	2.142	1.333
1ST QUARTILE :	3.7	********	0.0072	0.1564	5.03	1.428	0.614
2ND QUARTILE :	6.6	********	0.0756	0.2561	8.03	2.204	1.152
3RD QUARTILE :	12.3	********	0.1585	0.4086	14.44	3.767	2.462
VOL. WGT. MEAN :	*******	********	0.0948	0.3082	10.02	2.378	1.812

	CHLORIDE MG/M**2	MAGNESIM MG/M**2	POTASSIM MG/M**2	SODIUM MG/M**2	AMMONIUM AS N MG/M**2
# OF SAMPLES :	68	68	68	68	69
MAXIMUM :	3.630	2.970	1.950	4.389	18.224
MINIMUM :	0.000	0.000	0.000	0.000	0.211
RANGE :	3.630	2.970	1.950	4.389	18.013
ARITH. MEAN :	0.725	0.317	0.395	0.495	3.202
ARITH. STD. DEV :	0.678	0.437	0.407	0.755	3.247
GEOM. MEAN :	0.704	0.270	0.334	0.323	2.064
1ST QUARTILE :	0.318	0.084	0.143	0.139	1.109
2ND QUARTILE :	0.605	0.181	0.250	0.282	2.149
3RD QUARTILE :	0.938	0.375	0.477	0.508	3.928
VOL. WGT. MEAN :	0.611	0.266	0.331	0.415	2.720

***** : INSUFFICIENT DATA
NOTE(1): PRECIP. VALUES REPRESENT GAUGE DEPTH
NOTE(2): THE VOLUME WEIGHTED MEAN DEPOSITION REPRESENTS THE PRODUCT OF VOLUME WEIGHTED MEAN CONCENTRATION (SEE PART III) AND ANNUAL PRECIPITATION GAUGE DEPTH, DIVIDED BY THE NUMBER OF SAMPLES.

ONTARIO MINISTRY OF THE ENVIRONMENT
SUMMARY STATISTICS OF CALCULATED DEPOSITIONS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : RAILTON/DAILY/AEROCHEM #10

PERIOD OF REPORT : JAN 8, 88 TO DEC 29,88

	PRECIP. MM	FREE H+ FIELD MG/M**2	FREE H+ LAB MG/M**2	TOTAL H+ GRAN MG/M**2	SULPHATE MG/M**2	NITRATE AS N MG/M**2	CALCIUM MG/M**2
# OF SAMPLES :	60	21	51	51	53	53	50
MAXIMUM :	28.2	2.1023	1.8737	2.7664	95.09	15.561	13.224
MINIMUM :	0.2	0.0002	0.0000	0.0000	0.24	0.000	0.000
RANGE :	28.0	2.1021	1.8737	2.7664	94.85	15.561	13.224
ARITH. MEAN :	6.4	0.6287	0.3801	0.5924	23.29	4.299	3.036
ARITH. STD. DEV :	6.4	0.5173	0.3746	0.5564	21.32	3.706	3.235
GEOM. MEAN :	3.7	0.2307	0.1261	0.3391	12.98	2.634	1.764
1ST QUARTILE :	2.0	0.3108	0.0646	0.1334	6.97	1.290	0.701
2ND QUARTILE :	4.2	0.4875	0.2856	0.4522	16.46	2.976	1.968
3RD QUARTILE :	8.0	0.8206	0.5340	0.8338	33.30	5.931	3.534
VOL. WGT. MEAN :	*******	0.5188	0.3590	0.5520	22.45	4.144	2.870

	CHLORIDE MG/M**2	MAGNESIM MG/M**2	POTASSIM MG/M**2	SODIUM MG/M**2	AMMONIUM AS N MG/M**2
# OF SAMPLES :	53	50	51	51	50
MAXIMUM :	10.672	1.740	2.556	7.866	11.362
MINIMUM :	0.000	0.000	0.000	0.000	0.066
RANGE :	10.672	1.740	2.556	7.866	11.296
ARITH. MEAN :	1.360	0.392	0.324	0.579	3.290
ARITH. STD. DEV :	1.808	0.419	0.452	1.189	2.894
GEOM. MEAN :	0.732	0.236	0.206	0.277	1.970
1ST QUARTILE :	0.279	0.110	0.063	0.072	0.913
2ND QUARTILE :	0.712	0.217	0.194	0.208	2.630
3RD QUARTILE :	1.596	0.508	0.351	0.622	4.491
VOL. WGT. MEAN :	1.310	0.370	0.307	0.550	3.104

***** : INSUFFICIENT DATA
NOTE(1): PRECIP. VALUES REPRESENT GAUGE DEPTH
NOTE(2): THE VOLUME WEIGHTED MEAN DEPOSITION REPRESENTS THE PRODUCT OF VOLUME WEIGHTED MEAN CONCENTRATION (SEE PART III) AND ANNUAL PRECIPITATION GAUGE DEPTH, DIVIDED BY THE NUMBER OF SAMPLES.

ONTARIO MINISTRY OF THE ENVIRONMENT
SUMMARY STATISTICS OF CALCULATED DEPOSITIONS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : RAVEN LAKE/DAILY/AEROCHEM #05

PERIOD OF REPORT : DEC 31, 87 TO DEC 31,88

	PRECIP. MM	FREE H+ FIELD MG/M**2	FREE H+ LAB MG/M**2	TOTAL H+ GRAN MG/M**2	SULPHATE MG/M**2	NITRATE AS N MG/M**2	CALCIUM MG/M**2
# OF SAMPLES :	167	71	137	137	136	134	124
MAXIMUM :	40.0	4.8091	4.2861	5.2400	236.00	24.800	15.080
MINIMUM :	0.0	0.0006	0.0000	0.0025	0.00	0.020	0.000
RANGE :	40.0	4.8084	4.2861	5.2375	236.00	24.780	15.080
ARITH. MEAN :	4.6	0.4655	0.2344	0.3730	14.49	2.626	1.927
ARITH. STD. DEV :	6.0	0.7678	0.5373	0.6878	31.53	3.859	2.912
GEOM. MEAN :	2.1	0.1913	0.0325	0.1286	4.66	1.032	0.856
1ST QUARTILE :	0.8	0.0735	0.0066	0.0430	1.50	0.362	0.282
2ND QUARTILE :	2.0	0.2468	0.0645	0.1204	4.37	1.296	0.834
3RD QUARTILE :	6.1	0.4872	0.2334	0.3935	14.74	3.280	2.272
VOL. WGT. MEAN :	*******	0.2595	0.2147	0.3418	13.16	2.369	1.610

	CHLORIDE MG/M**2	MAGNESIM MG/M**2	POTASSIM MG/M**2	SODIUM MG/M**2	AMMONIUM AS N MG/M**2
# OF SAMPLES :	137	124	123	124	140
MAXIMUM :	4.400	2.850	2.130	2.688	25.536
MINIMUM :	0.000	0.000	0.000	0.000	0.001
RANGE :	4.400	2.850	2.130	2.688	25.535
ARITH. MEAN :	0.662	0.242	0.155	0.248	2.149
ARITH. STD. DEV :	0.858	0.432	0.247	0.381	3.900
GEOM. MEAN :	0.362	0.114	0.093	0.144	0.573
1ST QUARTILE :	0.120	0.030	0.027	0.044	0.193
2ND QUARTILE :	0.349	0.090	0.077	0.120	0.723
3RD QUARTILE :	0.858	0.223	0.185	0.275	2.142
VOL. WGT. MEAN :	0.606	0.202	0.130	0.207	1.991

***** : INSUFFICIENT DATA
NOTE(1): PRECIP. VALUES REPRESENT GAUGE DEPTH
NOTE(2): THE VOLUME WEIGHTED MEAN DEPOSITION REPRESENTS THE PRODUCT OF VOLUME WEIGHTED MEAN CONCENTRATION (SEE PART III) AND ANNUAL PRECIPITATION GAUGE DEPTH, DIVIDED BY THE NUMBER OF SAMPLES.

ONTARIO MINISTRY OF THE ENVIRONMENT
SUMMARY STATISTICS OF CALCULATED DEPOSITIONS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : SUTTON/DAILY/AEROCHEM./7011

PERIOD OF REPORT : DEC 31, 87 TO APR 26,88

	PRECIP. MM	FREE H+ FIELD MG/M**2	FREE H+ LAB MG/M**2	TOTAL H+ GRAN. MG/M**2	SULPHATE MG/M**2	NITRATE AS N MG/M**2	CALCIUM MG/M**2
# OF SAMPLES :	76	0	36	37	41	41	29
MAXIMUM :	20.2	********	1.2420	1.9200	58.40	10.908	4.560
MINIMUM :	0.1	********	0.0001	0.0150	0.09	0.018	0.000
RANGE :	20.1	********	1.2419	1.9050	58.31	10.890	4.560
ARITH. MEAN :	3.4	********	0.2590	0.4135	9.96	3.008	1.002
ARITH. STD. DEV :	4.7	********	0.2660	0.4013	11.55	2.753	1.106
GEOM. MEAN :	1.1	********	0.1027	0.2514	4.92	1.709	0.779
1ST QUARTILE :	0.2	********	0.0795	0.1256	1.98	0.983	0.192
2ND QUARTILE :	1.3	********	0.2148	0.3138	5.46	2.146	0.600
3RD QUARTILE :	4.9	********	0.3100	0.4916	13.43	3.624	1.530
VOL. WGT. MEAN :	*******	********	0.1533	0.2340	5.89	1.778	0.455

	CHLORIDE MG/M**2	MAGNESIM MG/M**2	POTASSIM MG/M**2	SODIUM MG/M**2	AMMONIUM AS N MG/M**2
# OF SAMPLES :	41	29	29	29	40
MAXIMUM :	2.592	0.876	0.340	1.875	6.666
MINIMUM :	0.018	0.000	0.000	0.000	0.000
RANGE :	2.574	0.876	0.340	1.875	6.666
ARITH. MEAN :	0.683	0.109	0.088	0.470	1.433
ARITH. STD. DEV :	0.624	0.176	0.083	0.518	1.794
GEOM. MEAN :	0.459	0.229	0.106	0.345	0.544
1ST QUARTILE :	0.249	0.000	0.024	0.118	0.105
2ND QUARTILE :	0.517	0.051	0.061	0.205	0.776
3RD QUARTILE :	0.847	0.135	0.118	0.529	1.888
VOL. WGT. MEAN :	0.404	0.049	0.040	0.213	0.838

***** : INSUFFICIENT DATA
NOTE(1): PRECIP. VALUES REPRESENT GAUGE DEPTH
NOTE(2): THE VOLUME WEIGHTED MEAN DEPOSITION REPRESENTS THE PRODUCT OF VOLUME WEIGHTED MEAN CONCENTRATION (SEE PART III) AND ANNUAL PRECIPITATION GAUGE DEPTH, DIVIDED BY THE NUMBER OF SAMPLES.

ONTARIO MINISTRY OF THE ENVIRONMENT
SUMMARY STATISTICS OF CALCULATED DEPOSITIONS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : WELLESLEY/DAILY/AEROCHEM 804

PERIOD OF REPORT : JAN 1, 88 TO DEC 30,88

	PRECIP. MM	FREE H+ FIELD MG/M**2	FREE H+ LAB MG/M**2	TOTAL H+ GRAN MG/M**2	SULPHATE MG/M**2	NITRATE AS N MG/M**2	CALCIUM MG/M**2
# OF SAMPLES	161	73	135	135	131	131	115
MAXIMUM	44.9	5.7842	3.9106	5.2533	206.54	19.756	27.008
MINIMUM	0.1	0.0011	0.0000	0.0048	0.23	0.000	0.000
RANGE	44.8	5.7831	3.9106	5.2485	206.31	19.756	27.008
ARITH. MEAN	5.1	0.7359	0.2544	0.3971	19.22	3.073	2.819
ARITH. STD. DEV	6.7	1.0015	0.4895	0.6301	27.66	3.492	4.056
GEOM. MEAN	2.5	0.2602	0.0213	0.1532	9.14	1.581	1.400
1ST QUARTILE	1.1	0.1643	0.0009	0.0546	3.86	0.742	0.532
2ND QUARTILE	2.9	0.4196	0.0787	0.1924	11.90	2.157	1.283
3RD QUARTILE	6.0	0.8661	0.3137	0.5056	22.55	4.044	3.657
VOL. WGT. MEAN	*******	0.4047	0.2218	0.3463	16.31	2.608	2.193

	CHLORIDE MG/M**2	MAGNESIM MG/M**2	POTASSIM MG/M**2	SODIUM MG/M**2	AMMONIUM AS N MG/M**2
# OF SAMPLES	130	115	114	115	133
MAXIMUM	8.160	5.486	2.110	3.307	24.515
MINIMUM	0.000	0.000	0.000	0.000	0.045
RANGE	8.160	5.486	2.110	3.307	24.470
ARITH. MEAN	1.120	0.574	0.208	0.413	3.412
ARITH. STD. DEV	1.436	0.886	0.309	0.603	4.055
GEOM. MEAN	0.602	0.281	0.138	0.220	1.922
1ST QUARTILE	0.222	0.114	0.039	0.065	0.938
2ND QUARTILE	0.605	0.254	0.107	0.206	2.193
3RD QUARTILE	1.400	0.638	0.247	0.461	4.062
VOL. WGT. MEAN	0.947	0.447	0.161	0.321	2.944

***** : INSUFFICIENT DATA
NOTE(1): PRECIP. VALUES REPRESENT GAUGE DEPTH
NOTE(2): THE VOLUME WEIGHTED MEAN DEPOSITION REPRESENTS THE PRODUCT OF VOLUME WEIGHTED MEAN CONCENTRATION (SEE PART III) AND ANNUAL PRECIPITATION GAUGE DEPTH, DIVIDED BY THE NUMBER OF SAMPLES.

ONTARIO MINISTRY OF THE ENVIRONMENT
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY
SUMMARY STATISTICS OF DEPOSITION

STATION-WILMER AEROCHEM SITE NO.1

	EQUIVALENT PREC. DEPTH MM	SULFATE MG/M**2	NITRATE MG/M**2	CALCIUM MG/M**2	CHLORIDE MG/M**2	MAGNESIUM MG/M**2
# OF SAMPLES :	180.0	180	180	180	180	180
MAXIMUM :	32.4	77.49	19.61	17.64	13.68	2.695
MINIMUM :	0.2	0.08	0.04	0.00	0.00	0.000
ARITH. MEAN :	4.3	14.71	3.28	1.70	0.96	0.243
ARITH. STD. DEV :	5.4	14.91	3.14	2.35	1.48	0.372
GEOM. MEAN :	1.9	7.66	1.88	0.94	0.57	0.135
1ST QUARTILE :	0.4	3.26	1.10	0.43	0.18	0.040
2ND QUARTILE :	2.2	10.78	2.51	0.97	0.54	0.132
3RD QUARTILE :	6.4	19.56	4.28	2.10	1.26	0.288
VOL. WGT. MEAN :	.	10.57	2.37	1.18	0.69	0.169
MISSING VALUES :	2.0	56	57	60	55	60

	POTASSIUM MG/M**2	SODIUM MG/M**2	AMMONIUM MG/M**2	ACIDITY GRAN UG/M**2	FREE H+ LAB UG/M**2
# OF SAMPLES :	180	180	180	180	180.00
MAXIMUM :	0.800	2.736	9.546	1992.60	1562.5
MINIMUM :	0.000	0.000	0.000	8.36	0.02
ARITH. MEAN :	0.157	0.413	1.851	452.49	291.93
ARITH. STD. DEV :	0.144	0.548	1.944	424.59	304.63
GEOM. MEAN :	0.115	0.217	1.052	262.13	111.19
1ST QUARTILE :	0.056	0.078	0.478	146.40	63.65
2ND QUARTILE :	0.120	0.212	1.292	338.52	188.47
3RD QUARTILE :	0.231	0.495	2.482	609.75	433.81
VOL. WGT. MEAN :	0.109	0.287	1.343	319.04	.
MISSING VALUES :	60	60	56	58	58.00

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PART VI

SUMMARY STATISTICS OF WET DEPOSITION BY REGION

ONTARIO MINISTRY OF THE ENVIRONMENT
SUMMARY STATISTICS OF CALCULATED DEPOSITIONS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : CENTRAL REGION/DAILY PRECIPITATION

PERIOD OF REPORT : DEC 31, 87 TO DEC 31,88

	PRECIP. MM	FREE H+ FIELD MG/M**2	FREE H+ LAB MG/M**2	TOTAL H+ GRAN MG/M**2	SULPHATE MG/M**2	NITRATE AS N MG/M**2	CALCIUM MG/M**2
# OF SAMPLES :	648	350	75	576	564	558	518
MAXIMUM :	72.0	5.2048	4.3292	5.7147	307.80	29.520	27.500
MINIMUM :	0.0	0.0001	0.0000	0.0012	0.00	0.000	0.000
RANGE :	72.0	5.2047	4.3292	5.7135	307.80	29.520	27.500
ARITH. MEAN :	5.0	0.4227	0.2575	0.4009	14.69	2.916	1.749
ARITH. STD. DEV :	6.6	0.6006	0.4827	0.6435	28.11	3.863	2.999
GEOM. MEAN :	2.1	0.1863	0.0447	0.1447	4.76	1.180	0.741
1ST QUARTILE :	0.8	0.0916	0.0122	0.0499	1.64	0.413	0.230
2ND QUARTILE :	2.4	0.2525	0.0891	0.1718	5.99	1.525	0.774
3RD QUARTILE :	6.6	0.5181	0.2940	0.4846	17.20	3.969	1.848
VOL. WGT. MEAN :	*******	0.2663	0.2359	0.3676	13.19	2.597	1.457

	CHLORIDE MG/M**2	MAGNESIM MG/M**2	POTASSIM MG/M**2	SODIUM MG/M**2	AMMONIUM AS N MG/M**2
# OF SAMPLES :	565	517	518	518	580
MAXIMUM :	15.120	4.902	2.130	7.200	35.112
MINIMUM :	0.000	0.000	0.000	0.000	0.000
RANGE :	15.120	4.902	2.130	7.200	35.112
ARITH. MEAN :	0.865	0.230	0.193	0.350	2.119
ARITH. STD. DEV :	1.402	0.437	0.271	0.665	3.562
GEOM. MEAN :	0.419	0.120	0.110	0.168	0.591
1ST QUARTILE :	0.127	0.025	0.039	0.055	0.179
2ND QUARTILE :	0.384	0.090	0.105	0.165	0.850
3RD QUARTILE :	1.055	0.226	0.243	0.360	2.426
VOL. WGT. MEAN :	0.778	0.191	0.161	0.292	1.950

***** : INSUFFICIENT DATA
NOTE(1): PRECIP. VALUES REPRESENT GAUGE DEPTH
NOTE(2): THE VOLUME WEIGHTED MEAN DEPOSITION REPRESENTS THE PRODUCT OF VOLUME WEIGHTED MEAN CONCENTRATION (SEE PART III) AND ANNUAL PRECIPITATION GAUGE DEPTH, DIVIDED BY THE NUMBER OF SAMPLES.

ONTARIO MINISTRY OF THE ENVIRONMENT
SUMMARY STATISTICS OF CALCULATED DEPOSITIONS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : NORTHEASTERN REGION/DAILY PRECIPITATION

PERIOD OF REPORT : APR 11, 88 TO DEC 31,88

	PRECIP. MM	FREE H+ FIELD MG/M**2	FREE H+ LAB MG/M**2	TOTAL H+ GRAN MG/M**2	SULPHATE MG/M**2	NITRATE AS N MG/M**2	CALCIUM MG/M**2
# OF SAMPLES :	262	127	179	179	171	170	168
MAXIMUM :	140.0	4.2961	3.1123	6.5540	248.60	49.720	27.120
MINIMUM :	0.0	0.0034	0.0000	0.0028	0.00	0.000	0.000
RANGE :	140.0	4.2927	3.1123	6.5512	248.60	49.720	27.120
ARITH. MEAN :	5.8	0.4515	0.2686	0.4697	14.29	2.749	1.082
ARITH. STD. DEV :	15.1	0.6259	0.4702	0.8480	27.55	5.185	2.604
GEOM. MEAN :	1.2	0.2106	0.0520	0.1450	4.21	0.865	0.409
1ST QUARTILE :	0.3	0.0862	0.0123	0.0415	1.02	0.153	0.065
2ND QUARTILE :	1.4	0.2243	0.0820	0.1916	5.74	1.055	0.299
3RD QUARTILE :	5.4	0.5780	0.3019	0.4963	17.15	3.330	1.004
VOL. WGT. MEAN :	*******	0.2669	0.1911	0.3342	9.73	1.862	0.733

	CHLORIDE MG/M**2	MAGNESIM MG/M**2	POTASSIM MG/M**2	SODIUM MG/M**2	AMMONIUM AS N MG/M**2
# OF SAMPLES :	172	168	166	168	179
MAXIMUM :	8.786	4.520	4.520	8.475	38.420
MINIMUM :	0.000	0.000	0.000	0.000	0.000
RANGE :	8.786	4.520	4.520	8.475	38.420
ARITH. MEAN :	0.642	0.175	0.251	0.351	1.780
ARITH. STD. DEV :	1.193	0.427	0.505	0.850	3.746
GEOM. MEAN :	0.351	0.091	0.123	0.152	0.393
1ST QUARTILE :	0.056	0.008	0.031	0.053	0.066
2ND QUARTILE :	0.237	0.048	0.111	0.137	0.518
3RD QUARTILE :	0.688	0.174	0.270	0.312	2.053
VOL. WGT. MEAN :	0.439	0.119	0.169	0.238	1.326

***** : INSUFFICIENT DATA
NOTE(1): PRECIP. VALUES REPRESENT GAUGE DEPTH
NOTE(2): THE VOLUME WEIGHTED MEAN DEPOSITION REPRESENTS THE PRODUCT OF VOLUME WEIGHTED MEAN CONCENTRATION (SEE PART III) AND ANNUAL PRECIPITATION GAUGE DEPTH, DIVIDED BY THE NUMBER OF SAMPLES.

ONTARIO MINISTRY OF THE ENVIRONMENT
SUMMARY STATISTICS OF CALCULATED DEPOSITIONS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : NORTHWESTERN REGION/DAILY PRECIPITATION

PERIOD OF REPORT : JAN 1, 88 TO DEC 30,88

	PRECIP. MM	FREE H+ FIELD MG/M**2	FREE H+ LAB MG/M**2	TOTAL H+ GRAN MG/M**2	SULPHATE MG/M**2	NITRATE AS N MG/M**2	CALCIUM MG/M**2
# OF SAMPLES :	341	0	254	254	260	260	253
MAXIMUM :	140.0	********	1.2866	2.8700	126.84	19.488	30.240
MINIMUM :	0.1	********	0.0000	0.0010	0.00	0.000	0.000
RANGE :	139.9	********	1.2865	2.8690	126.84	19.488	30.240
ARITH. MEAN :	7.5	********	0.0868	0.2722	9.84	2.241	1.875
ARITH. STD. DEV :	11.5	********	0.1378	0.3228	13.49	2.408	3.209
GEOM. MEAN :	2.9	********	0.0192	0.1439	4.31	1.138	0.933
1ST QUARTILE :	1.1	********	0.0040	0.0734	1.99	0.588	0.254
2ND QUARTILE :	4.3	********	0.0330	0.1932	5.79	1.587	0.896
3RD QUARTILE :	9.3	********	0.1138	0.3447	13.35	3.142	2.000
VOL. WGT. MEAN :	*******	********	0.0690	0.2163	7.94	1.808	1.470

	CHLORIDE MG/M**2	MAGNESIM MG/M**2	POTASSIM MG/M**2	SODIUM MG/M**2	AMMONIUM AS N MG/M**2
# OF SAMPLES :	260	253	253	252	268
MAXIMUM :	11.936	3.192	5.292	6.384	29.479
MINIMUM :	0.000	0.000	0.000	0.000	0.000
RANGE :	11.936	3.192	5.292	6.384	29.479
ARITH. MEAN :	0.616	0.282	0.341	0.435	2.549
ARITH. STD. DEV :	1.015	0.469	0.523	0.774	3.554
GEOM. MEAN :	0.459	0.208	0.196	0.226	0.922
1ST QUARTILE :	0.106	0.031	0.051	0.073	0.331
2ND QUARTILE :	0.372	0.132	0.172	0.188	1.376
3RD QUARTILE :	0.750	0.335	0.400	0.431	3.230
VOL. WGT. MEAN :	0.497	0.221	0.267	0.340	2.103

***** : INSUFFICIENT DATA
NOTE(1): PRECIP. VALUES REPRESENT GAUGE DEPTH
NOTE(2): THE VOLUME WEIGHTED MEAN DEPOSITION REPRESENTS THE PRODUCT OF VOLUME WEIGHTED MEAN CONCENTRATION (SEE PART III) AND ANNUAL PRECIPITATION GAUGE DEPTH, DIVIDED BY THE NUMBER OF SAMPLES.

ONTARIO MINISTRY OF THE ENVIRONMENT
SUMMARY STATISTICS OF CALCULATED DEPOSITIONS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : SOUTHEASTERN REGION/DAILY PRECIPITATION

PERIOD OF REPORT : JAN 4, 88 TO DEC 31,88

	PRECIP. MM	FREE H+ FIELD MG/M**2	FREE H+ LAB MG/M**2	TOTAL H+ GRAN MG/M**2	SULPHATE MG/M**2	NITRATE AS N MG/M**2	CALCIUM MG/M**2
# OF SAMPLES :	342	67	266	266	272	271	261
MAXIMUM :	113.8	2.1023	4.0378	6.6004	176.39	27.312	17.640
MINIMUM :	0.2	0.0002	0.0000	0.0000	0.00	0.000	0.000
RANGE :	113.6	2.1021	4.0378	6.6004	176.39	27.312	17.640
ARITH. MEAN :	5.8	0.4578	0.3428	0.5331	18.36	3.549	1.940
ARITH. STD. DEV :	8.8	0.4294	0.4217	0.6221	21.75	3.449	2.528
GEOM. MEAN :	2.6	0.2358	0.1306	0.2955	9.15	2.108	1.044
1ST QUARTILE :	0.8	0.1414	0.0780	0.1605	4.46	1.238	0.420
2ND QUARTILE :	3.0	0.3906	0.2302	0.3777	11.49	2.568	1.080
3RD QUARTILE :	7.4	0.6012	0.4647	0.6781	23.16	4.765	2.292
VOL. WGT. MEAN :	*******	0.3745	0.2801	0.4345	15.29	2.960	1.565

	CHLORIDE MG/M**2	MAGNESIM MG/M**2	POTASSIM MG/M**2	SODIUM MG/M**2	AMMONIUM AS N MG/M**2
# OF SAMPLES :	273	261	262	262	268
MAXIMUM :	34.750	2.695	2.556	7.866	16.615
MINIMUM :	0.000	0.000	0.000	0.000	0.000
RANGE :	34.750	2.695	2.556	7.866	16.615
ARITH. MEAN :	1.186	0.281	0.199	0.413	2.349
ARITH. STD. DEV :	2.551	0.377	0.262	0.679	2.625
GEOM. MEAN :	0.653	0.181	0.139	0.234	1.229
1ST QUARTILE :	0.228	0.058	0.054	0.081	0.659
2ND QUARTILE :	0.576	0.153	0.120	0.201	1.435
3RD QUARTILE :	1.360	0.318	0.240	0.462	3.082
VOL. WGT. MEAN :	0.991	0.226	0.160	0.334	1.950

***** : INSUFFICIENT DATA
NOTE(1): PRECIP. VALUES REPRESENT GAUGE DEPTH
NOTE(2): THE VOLUME WEIGHTED MEAN DEPOSITION REPRESENTS THE PRODUCT OF VOLUME WEIGHTED MEAN CONCENTRATION (SEE PART III) AND ANNUAL PRECIPITATION GAUGE DEPTH, DIVIDED BY THE NUMBER OF SAMPLES.

ONTARIO MINISTRY OF THE ENVIRONMENT
SUMMARY STATISTICS OF CALCULATED DEPOSITIONS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : SOUTHWESTERN REGION/DAILY PRECIPITATION

PERIOD OF REPORT : JAN 13, 88 TO DEC 31,88

	PRECIP. MM	FREE H+ FIELD MG/M**2	FREE H+ LAB MG/M**2	TOTAL H+ GRAN MG/M**2	SULPHATE MG/M**2	NITRATE AS N MG/M**2	CALCIUM MG/M**2
# OF SAMPLES :	602	293	515	516	495	495	455
MAXIMUM :	69.0	20.3634	7.2252	9.1080	334.65	32.487	33.306
MINIMUM :	0.1	0.0002	0.0000	0.0000	0.00	0.000	0.000
RANGE :	68.9	20.3632	7.2252	9.1080	334.65	32.487	33.306
ARITH. MEAN :	5.5	1.1246	0.2926	0.4481	20.29	3.445	2.857
ARITH. STD. DEV :	7.8	1.9927	0.5795	0.7548	30.18	4.159	4.033
GEOM. MEAN :	2.6	0.3177	0.0248	0.1607	9.20	1.785	1.499
1ST QUARTILE :	1.0	0.1561	0.0015	0.0490	4.01	0.820	0.680
2ND QUARTILE :	2.6	0.4473	0.0805	0.1825	10.86	2.262	1.471
3RD QUARTILE :	6.6	1.1482	0.3181	0.5179	25.98	4.335	3.200
VOL. WGT. MEAN :	*******	0.6716	0.2613	0.4005	17.60	2.988	2.311

	CHLORIDE MG/M**2	MAGNESIM MG/M**2	POTASSIM MG/M**2	SODIUM MG/M**2	AMMONIUM AS N MG/M**2
# OF SAMPLES :	496	455	453	455	510
MAXIMUM :	15.408	5.486	4.992	6.946	30.030
MINIMUM :	0.000	0.000	0.000	0.000	0.000
RANGE :	15.408	5.486	4.992	6.946	30.030
ARITH. MEAN :	1.296	0.547	0.333	0.517	3.217
ARITH. STD. DEV :	1.721	0.799	0.502	0.766	4.177
GEOM. MEAN :	0.742	0.293	0.180	0.263	1.613
1ST QUARTILE :	0.296	0.118	0.070	0.107	0.718
2ND QUARTILE :	0.736	0.276	0.168	0.230	1.826
3RD QUARTILE :	1.575	0.591	0.352	0.632	3.946
VOL. WGT. MEAN :	1.127	0.443	0.269	0.418	2.849

***** : INSUFFICIENT DATA
NOTE(1): PRECIP. VALUES REPRESENT GAUGE DEPTH
NOTE(2): THE VOLUME WEIGHTED MEAN DEPOSITION REPRESENTS THE PRODUCT OF VOLUME WEIGHTED MEAN CONCENTRATION (SEE PART III) AND ANNUAL PRECIPITATION GAUGE DEPTH, DIVIDED BY THE NUMBER OF SAMPLES.

PART VII

SUMMARY STATISTICS OF AIR CONCENTRATION BY STATION, REGION

ONTARIO MINISTRY OF THE ENVIRONMENT
SUMMARY STATISTICS OF AMBIENT CONCENTRATIONS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : BALSAM LAKE/DAILY/AIR

PERIOD OF REPORT : JAN 15,88 TO DEC 31,88

	SULPHUR DIOXIDE UG/M**3	SULPHATE UG/M**3	NITRIC AS N UG/M**3	AMMONIUM AS N UG/M**3	NITRATE AS N UG/M**3	TOTL NO3 AS N UG/M**3
# OF SAMPLES :	294.0	297.00	298.00	293.000	298.00	298.00
MAXIMUM :	43.5	73.10	1.31	5.370	2.01	2.29
MINIMUM :	0.0	0.00	0.00	0.000	0.00	0.00
RANGE :	43.5	73.10	1.31	5.370	2.01	2.29
ARITH. MEAN :	5.3	3.95	0.25	0.833	0.21	0.46
ARITH. STD. DEV :	6.4	6.55	0.27	0.982	0.28	0.46
GEOM. MEAN :	2.7	2.25	0.19	0.495	0.12	0.29
1ST QUARTILE :	0.8	1.13	0.05	0.197	0.04	0.11
2ND QUARTILE :	3.3	2.09	0.15	0.485	0.10	0.27
3RD QUARTILE :	7.0	4.00	0.37	1.066	0.29	0.70

ONTARIO MINISTRY OF THE ENVIRONMENT
SUMMARY STATISTICS OF AMBIENT CONCENTRATIONS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : CHARLESTON LAKE/DAILY/AIR #11

PERIOD OF REPORT : DEC 31,87 TO DEC 31,88

	SULPHUR DIOXIDE UG/M**3	SULPHATE UG/M**3	NITRIC AS N UG/M**3	AMMONIUM AS N UG/M**3	NITRATE AS N UG/M**3	TOTL NO3 AS N UG/M**3
# OF SAMPLES :	237.0	237.00	237.00	236.000	235.00	235.00
MAXIMUM :	82.6	28.15	1.57	5.688	1.16	2.01
MINIMUM :	0.0	0.00	0.00	0.000	0.00	0.00
RANGE :	82.6	28.15	1.57	5.688	1.16	2.01
ARITH. MEAN :	3.9	3.51	0.33	0.809	0.12	0.45
ARITH. STD. DEV :	7.0	4.89	0.35	1.116	0.16	0.42
GEOM. MEAN :	1.9	1.94	0.26	0.531	0.12	0.34
1ST QUARTILE :	0.6	0.66	0.07	0.120	0.03	0.13
2ND QUARTILE :	1.7	1.84	0.21	0.431	0.07	0.31
3RD QUARTILE :	4.5	3.97	0.46	1.013	0.14	0.70

ONTARIO MINISTRY OF THE ENVIRONMENT
SUMMARY STATISTICS OF AMBIENT CONCENTRATIONS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : DORSET/DAILY/AIR #08

PERIOD OF REPORT : DEC 31,87 TO DEC 31,88

	SULPHUR DIOXIDE UG/M**3	SULPHATE UG/M**3	NITRIC AS N UG/M**3	AMMONIUM AS N UG/M**3	NITRATE AS N UG/M**3	TOTL NO3 AS N UG/M**3
# OF SAMPLES :	359.0	359.00	359.00	358.000	359.00	359.00
MAXIMUM :	34.9	26.04	1.10	7.083	1.41	2.03
MINIMUM :	0.0	0.00	0.00	0.000	0.00	0.00
RANGE :	34.9	26.04	1.10	7.083	1.41	2.03
ARITH. MEAN :	4.7	3.15	0.18	0.667	0.12	0.30
ARITH. STD. DEV :	6.1	3.84	0.21	0.932	0.22	0.35
GEOM. MEAN :	2.3	2.02	0.15	0.321	0.09	0.18
1ST QUARTILE :	0.6	1.13	0.03	0.105	0.01	0.06
2ND QUARTILE :	2.3	1.96	0.10	0.308	0.04	0.15
3RD QUARTILE :	6.5	3.54	0.27	0.836	0.10	0.43

ONTARIO MINISTRY OF THE ENVIRONMENT
SUMMARY STATISTICS OF AMBIENT CONCENTRATIONS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : EGBERT/DAILY/AIR

PERIOD OF REPORT : SEP 29,88 TO DEC 31,88

	SULPHUR DIOXIDE UG/M**3	SULPHATE UG/M**3	NITRIC AS N UG/M**3	AMMONIUM AS N UG/M**3	NITRATE AS N UG/M**3	TOTL NO3 AS N UG/M**3
# OF SAMPLES :	88.0	88.00	88.00	88.000	88.00	88.00
MAXIMUM :	30.5	12.83	1.24	4.041	2.05	2.41
MINIMUM :	0.0	0.00	0.00	0.000	0.00	0.01
RANGE :	30.5	12.83	1.24	4.041	2.05	2.40
ARITH. MEAN :	7.7	2.59	0.13	1.056	0.53	0.66
ARITH. STD. DEV :	7.9	2.24	0.16	0.944	0.58	0.64
GEOM. MEAN :	4.2	1.91	0.10	0.658	0.25	0.36
1ST QUARTILE :	1.8	1.14	0.05	0.343	0.08	0.15
2ND QUARTILE :	5.7	1.96	0.09	0.820	0.31	0.46
3RD QUARTILE :	10.6	3.08	0.15	1.386	0.75	0.99

ONTARIO MINISTRY OF THE ENVIRONMENT
SUMMARY STATISTICS OF AMBIENT CONCENTRATIONS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : FERNBERG/DAILY/AIR #16

PERIOD OF REPORT : DEC 31,87 TO DEC 31,88

	SULPHUR DIOXIDE UG/M**3	SULPHATE UG/M**3	NITRIC AS N UG/M**3	AMMONIUM AS N UG/M**3	NITRATE AS N UG/M**3	TOTL NO3 AS N UG/M**3
# OF SAMPLES :	330.0	330.00	330.00	329.000	330.00	330.00
MAXIMUM :	5.6	11.42	1.07	2.822	1.18	2.19
MINIMUM :	0.0	0.00	0.00	0.000	0.00	0.00
RANGE :	5.6	11.42	1.07	2.822	1.18	2.19
ARITH. MEAN :	1.0	1.38	0.10	0.327	0.08	0.18
ARITH. STD. DEV :	1.1	1.36	0.13	0.409	0.17	0.26
GEOM. MEAN :	0.7	0.96	0.12	0.181	0.14	0.13
1ST QUARTILE :	0.2	0.60	0.01	0.088	0.00	0.04
2ND QUARTILE :	0.5	0.99	0.06	0.199	0.04	0.09
3RD QUARTILE :	1.4	1.66	0.13	0.418	0.07	0.20

ONTARIO MINISTRY OF THE ENVIRONMENT
SUMMARY STATISTICS OF AMBIENT CONCENTRATIONS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : GOWGANDA/DAILY/AIR

PERIOD OF REPORT : FEB 3,88 TO DEC 31,88 PAGE : 1

	SULPHUR DIOXIDE UG/M**3	SULPHATE UG/M**3	NITRIC AS N UG/M**3	AMMONIUM AS N UG/M**3	NITRATE AS N UG/M**3	TOTL NO3 AS N UG/M**3
# OF SAMPLES :	329.0	329.00	329.00	329.000	329.00	329.00
MAXIMUM :	76.6	17.38	1.24	3.429	1.06	1.25
MINIMUM :	0.0	0.00	0.00	0.000	0.00	0.00
RANGE :	76.6	17.38	1.24	3.429	1.06	1.25
ARITH. MEAN :	4.0	2.11	0.10	0.379	0.04	0.14
ARITH. STD. DEV :	8.9	2.51	0.16	0.504	0.08	0.19
GEOM. MEAN :	1.3	1.34	0.09	0.207	0.06	0.09
1ST QUARTILE :	0.2	0.68	0.02	0.091	0.00	0.03
2ND QUARTILE :	0.8	1.36	0.05	0.222	0.02	0.07
3RD QUARTILE :	4.3	2.39	0.12	0.443	0.04	0.16

ONTARIO MINISTRY OF THE ENVIRONMENT
SUMMARY STATISTICS OF AMBIENT CONCENTRATIONS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : HIGH FALLS/DAILY/AIR

PERIOD OF REPORT : DEC 31,87 TO DEC 31,88 PAGE : 1

	SULPHUR DIOXIDE UG/M**3	SULPHATE UG/M**3	NITRIC AS N UG/M**3	AMMONIUM AS N UG/M**3	NITRATE AS N UG/M**3	TOTL NO3 AS N UG/M**3
# OF SAMPLES :	362.0	362.00	362.00	361.000	362.00	362.00
MAXIMUM :	82.4	22.81	1.06	4.234	1.55	1.78
MINIMUM :	0.0	0.00	0.00	0.000	0.00	0.00
RANGE :	82.4	22.81	1.06	4.234	1.55	1.78
ARITH. MEAN :	4.5	2.46	0.11	0.505	0.07	0.18
ARITH. STD. DEV :	9.8	2.87	0.15	0.690	0.15	0.25
GEOM. MEAN :	1.5	1.52	0.10	0.242	0.08	0.11
1ST QUARTILE :	0.3	0.85	0.02	0.106	0.01	0.04
2ND QUARTILE :	1.3	1.54	0.05	0.251	0.03	0.09
3RD QUARTILE :	4.8	2.72	0.15	0.586	0.06	0.20

ONTARIO MINISTRY OF THE ENVIRONMENT
SUMMARY STATISTICS OF AMBIENT CONCENTRATIONS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : LONGWOODS/DAILY/AIR 802

PERIOD OF REPORT : DEC 31,87 TO DEC 31,88 PAGE : 1

	SULPHUR DIOXIDE UG/M**3	SULPHATE UG/M**3	NITRIC AS N UG/M**3	AMMONIUM AS N UG/M**3	NITRATE AS N UG/M**3	TOTL NO3 AS N UG/M**3
# OF SAMPLES :	358.0	358.00	358.00	358.000	358.00	358.00
MAXIMUM :	60.9	41.19	2.67	8.956	3.38	3.90
MINIMUM :	0.0	0.00	0.00	0.000	0.00	0.01
RANGE :	60.9	41.19	2.67	8.956	3.38	3.89
ARITH. MEAN :	9.1	5.09	0.39	1.333	0.52	0.90
ARITH. STD. DEV :	8.6	5.80	0.38	1.354	0.53	0.69
GEOM. MEAN :	5.7	3.38	0.25	0.859	0.35	0.65
1ST QUARTILE :	3.0	1.97	0.12	0.484	0.15	0.37
2ND QUARTILE :	6.8	3.23	0.25	0.964	0.36	0.81
3RD QUARTILE :	12.2	5.85	0.54	1.652	0.71	1.19

ONTARIO MINISTRY OF THE ENVIRONMENT
SUMMARY STATISTICS OF AMBIENT CONCENTRATIONS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : PENN. STATE/DAILY/AIR

PERIOD OF REPORT : MAY 11,80 TO DEC 31,80

	SULPHUR DIOXIDE UG/M**3	SULPHATE UG/M**3	NITRIC AS N UG/M**3	AMMONIUM AS N UG/M**3	NITRATE AS N UG/M**3	TOTL NOS AS N UG/M**3
# OF SAMPLES :	217.0	218.00	218.00	218.000	218.00	218.00
MAXIMUM :	120.4	40.72	1.36	5.884	1.29	2.30
MINIMUM :	0.0	0.08	0.00	0.000	0.00	0.04
RANGE :	120.4	40.64	1.36	5.884	1.29	2.27
ARITH. MEAN :	11.9	7.36	0.38	1.526	0.15	0.53
ARITH. STD. DEV :	15.8	7.79	0.25	1.334	0.17	0.34
GEOM. MEAN :	7.3	4.81	0.30	1.109	0.09	0.42
1ST QUANTILE :	3.9	2.69	0.19	0.581	0.04	0.27
2ND QUANTILE :	8.2	4.26	0.34	1.064	0.09	0.49
3RD QUANTILE :	13.4	8.10	0.49	1.998	0.18	0.73

ONTARIO MINISTRY OF THE ENVIRONMENT
SUMMARY STATISTICS OF AMBIENT CONCENTRATIONS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : WELLESLEY/DAILY/AIR

PERIOD OF REPORT : JAN 12,88 TO DEC 31,88

	SULPHUR DIOXIDE UG/M**3	SULPHATE UG/M**3	NITRIC AS N UG/M**3	AMMONIUM AS N UG/M**3	NITRATE AS N UG/M**3	TOTL NO3 AS N UG/M**3
# OF SAMPLES :	331.0	331.00	331.00	328.000	330.00	330.00
MAXIMUM :	70.1	51.28	1.56	14.213	3.70	3.94
MINIMUM :	0.0	0.01	0.00	0.000	0.00	0.00
RANGE :	70.1	51.27	1.56	14.213	3.70	3.94
ARITH. MEAN :	7.3	4.84	0.28	1.609	0.63	0.91
ARITH. STD. DEV :	8.5	5.55	0.34	1.695	0.66	0.75
GEOM. MEAN :	4.0	3.20	0.15	0.959	0.34	0.58
1ST QUARTILE :	1.7	1.85	0.05	0.508	0.13	0.29
2ND QUARTILE :	4.6	3.32	0.13	1.172	0.41	0.77
3RD QUARTILE :	10.2	5.44	0.34	2.153	1.00	1.35

PART VIII

SUMMARY STATISTICS OF AIR CONCENTRATION BY REGION

ONTARIO MINISTRY OF THE ENVIRONMENT
SUMMARY STATISTICS OF AMBIENT CONCENTRATIONS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : CENTRAL REGION/DAILY/AIR

PERIOD OF REPORT : DEC 31,87 TO DEC 31,88

	SULPHUR DIOXIDE UG/M**3	SULPHATE UG/M**3	NITRIC AS N UG/M**3	AMMONIUM AS N UG/M**3	NITRATE AS N UG/M**3	TOTL NO3 AS N UG/M**3
# OF SAMPLES :	653.0	656.00	657.00	651.000	657.00	657.00
MAXIMUM :	43.5	73.10	1.31	7.083	2.01	2.29
MINIMUM :	0.0	0.00	0.00	0.000	0.00	0.00
RANGE :	43.5	73.10	1.31	7.083	2.01	2.29
ARITH. MEAN :	5.0	3.51	0.21	0.742	0.16	0.37
ARITH. STD. DEV :	6.2	5.25	0.24	0.957	0.25	0.41
GEOM. MEAN :	2.4	2.12	0.16	0.390	0.10	0.22
1ST QUARTILE :	0.7	1.15	0.04	0.142	0.02	0.08
2ND QUARTILE :	2.8	2.04	0.12	0.385	0.06	0.20
3RD QUARTILE :	6.8	3.89	0.31	0.965	0.18	0.55

ONTARIO MINISTRY OF THE ENVIRONMENT
SUMMARY STATISTICS OF AMBIENT CONCENTRATIONS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : NORTHEASTERN/DAILY/AIR

PERIOD OF REPORT : FEB 3,88 TO DEC 31,88

	SULPHUR DIOXIDE UG/M**3	SULPHATE UG/M**3	NITRIC AS N UG/M**3	AMMONIUM AS N UG/M**3	NITRATE AS N UG/M**3	TOTL NO3 AS N UG/M**3
# OF SAMPLES :	691.0	691.00	691.00	690.000	691.00	691.00
MAXIMUM :	82.4	22.81	1.24	4.234	1.55	1.78
MINIMUM :	0.0	0.00	0.00	0.000	0.00	0.00
RANGE :	82.4	22.81	1.24	4.234	1.55	1.78
ARITH. MEAN :	4.3	2.29	0.11	0.445	0.05	0.16
ARITH. STD. DEV :	9.4	2.71	0.16	0.611	0.12	0.22
GEOM. MEAN :	1.4	1.43	0.09	0.225	0.07	0.10
1ST QUARTILE :	0.2	0.77	0.02	0.099	0.00	0.04
2ND QUARTILE :	1.0	1.45	0.05	0.237	0.02	0.08
3RD QUARTILE :	4.6	2.58	0.14	0.505	0.05	0.18

ONTARIO MINISTRY OF THE ENVIRONMENT
SUMMARY STATISTICS OF AMBIENT CONCENTRATIONS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : NORTHWESTERN/DAILY/AIR

PERIOD OF REPORT : DEC 31,67 TO DEC 31,68

	SULPHUR DIOXIDE UG/M**3	SULPHATE UG/M**3	NITRIC AS N UG/M**3	AMMONIUM AS N UG/M**3	NITRATE AS N UG/M**3	TOTL NO3 AS N UG/M**3
# OF SAMPLES :	330.0	330.00	330.00	329.000	330.00	330.00
MAXIMUM :	5.6	11.42	1.07	2.822	1.18	2.19
MINIMUM :	0.0	0.00	0.00	0.000	0.00	0.00
RANGE :	5.6	11.42	1.07	2.822	1.18	2.19
ARITH. MEAN :	1.0	1.38	0.10	0.327	0.08	0.18
ARITH. STD. DEV :	1.1	1.36	0.13	0.409	0.17	0.26
GEOM. MEAN :	0.7	0.96	0.12	0.181	0.14	0.13
1ST QUARTILE :	0.2	0.60	0.01	0.088	0.00	0.04
2ND QUARTILE :	0.5	0.99	0.06	0.199	0.04	0.09
3RD QUARTILE :	1.4	1.66	0.13	0.418	0.07	0.20

ONTARIO MINISTRY OF THE ENVIRONMENT
SUMMARY STATISTICS OF AMBIENT CONCENTRATIONS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : SOUTHEASTERN/DAILY/AIR

PERIOD OF REPORT : DEC 31,87 TO DEC 31,88

	SULPHUR DIOXIDE UG/M**3	SULPHATE UG/M**3	NITRIC AS N UG/M**3	AMMONIUM AS N UG/M**3	NITRATE AS N UG/M**3	TOTL NO3 AS N UG/M**3
# OF SAMPLES :	237.0	237.00	237.00	236.000	235.00	235.00
MAXIMUM :	82.6	28.15	1.57	5.688	1.16	2.01
MINIMUM :	0.0	0.00	0.00	0.000	0.00	0.00
RANGE :	82.6	28.15	1.57	5.688	1.16	2.01
ARITH. MEAN :	3.9	3.51	0.33	0.809	0.12	0.45
ARITH. STD. DEV :	7.0	4.89	0.35	1.116	0.16	0.42
GEOM. MEAN :	1.9	1.94	0.26	0.531	0.12	0.34
1ST QUARTILE :	0.6	0.66	0.07	0.120	0.03	0.13
2ND QUARTILE :	1.7	1.84	0.21	0.431	0.07	0.31
3RD QUARTILE :	4.5	3.97	0.46	1.013	0.14	0.70

ONTARIO MINISTRY OF THE ENVIRONMENT
SUMMARY STATISTICS OF AMBIENT CONCENTRATIONS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : SOUTHWESTERN/DAILY/AIR

PERIOD OF REPORT : DEC 31,87 TO DEC 31,88

	SULPHUR DIOXIDE UG/M**3	SULPHATE UG/M**3	NITRIC AS N UG/M**3	AMMONIUM AS N UG/M**3	NITRATE AS N UG/M**3	TOTL NO3 AS N UG/M**3
# OF SAMPLES :	777.0	777.00	777.00	774.000	776.00	776.00
MAXIMUM :	70.1	51.28	2.67	14.213	3.70	3.94
MINIMUM :	0.0	0.00	0.00	0.000	0.00	0.00
RANGE :	70.1	51.28	2.67	14.213	3.70	3.94
ARITH. MEAN :	8.2	4.70	0.31	1.418	0.57	0.88
ARITH. STD. DEV :	8.5	5.45	0.36	1.482	0.60	0.71
GEOM. MEAN :	4.7	3.10	0.18	0.873	0.34	0.58
1ST QUARTILE :	2.3	1.80	0.07	0.476	0.14	0.31
2ND QUARTILE :	5.7	3.05	0.16	1.005	0.38	0.76
3RD QUARTILE :	11.0	5.35	0.41	1.795	0.79	1.24